

HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation
DT1502 10/2010 s.66.29(7) Wis. Stats.

Proposal Number:

Ø 1

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Brown	1133-03-77	WISC 2013 313	DePere - Suamico Morris Avenue - Memorial Drive Morris Ave - Ninth St Mainline	USH 41
Brown	1133-09-71	WISC 2013 314	DePere - Suamico Glory Road - Morris Avenue Glory Rd - Morris Ave Mainline	USH 41
Brown	1133-09-74	WISC 2013 315	DePere - Suamico Glory Road - Morris Avenue Hansen Road B-05-611	Local Street
Brown	1133-09-76	WISC 2013 316	DePere - Suamico Glory Road - Morris Avenue Oneida St/CTH AAA Intchg	USH 41

This proposal, submitted by the undersigned bidder to the Wisconsin Department of Transportation, is in accordance with the advertised request for proposals. The bidder is to furnish and deliver all materials, and to perform all work for the improvement of the designated project in the time specified, in accordance with the appended Proposal Requirements and Conditions.

Proposal Guaranty Required, \$ 1,000,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: July 23, 2013 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code
Contract Completion Time July 8, 2016	SAMPLE NOT FOR BIDDING PURPOSES
Assigned Disadvantaged Business Enterprise Goal 8%	This contract is subject to federal oversight.

This certifies that the undersigned bidder, duly sworn, is an authorized representative of the firm named above; that the bidder has examined and carefully prepared the bid from the plans, Highway Work Proposal, and all addenda, and has checked the same in detail before submitting this proposal or bid; and that the bidder or agents, officer, or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal bid.

Do not sign, notarize, or submit this Highway Work Proposal when submitting an electronic bid on the Internet.

Subscribed and sworn to before me this date _____

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State Wisconsin)

(Date Commission Expires)

Notary Seal

(Bidder Signature)

(Print or Type Bidder Name)

(Bidder Title)

For Department Use Only

Type of Work Grading, storm sewer, aggregate base, concrete pavement, HMA pavement, concrete barrier, traffic signals, pavement marking and the construction of 19 bridges, 22 retaining walls, 7 noise barriers, and 26 sign structures.	
Notice of Award Dated	Date Guaranty Returned

**PLEASE ATTACH
PROPOSAL GUARANTY HERE**

Effective with November 2007 Letting

PROPOSAL REQUIREMENTS AND CONDITIONS

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s.111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

BID PREPARATION

Preparing the Proposal Schedule of Items

A General

- (1) Obtain bidding proposals as specified in **section 102** of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:
 1. Electronic bid on the internet.
 2. Electronic bid on a printout with accompanying diskette or CD ROM.
 3. Paper bid under a waiver of the electronic submittal requirements.
- (2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.
- (3) The department will provide bidding information through the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm>. The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at <http://www.bidx.com/> after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (*.ebs or *.00x) is used to submit the final bid.
- (4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the www.bidx.com web site or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
email: <mailto:customer.support@bidx.com>

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.
- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm> or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

B Submitting Electronic Bids

B.1 On the Internet

- (1) Do the following before submitting the bid:
 1. Have a properly executed annual bid bond on file with the department.
 2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.
- (2) In lieu of preparing, delivering, and submitting the proposal as specified in **102.6** and **102.9** of the standard specifications, submit the proposal on the internet as follows:

1. Download the latest schedule of items reflecting all addenda from the Bid Express™ web site.
 2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
 3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
 4. Submit the bid before the hour and date the Notice to Contractors designates.
 5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.
- (3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

B.2 On a Printout with Accompanying Diskette or CD ROM

- (1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm>. Use Expedite™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.
- (2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

Bidder Name

BN00

Proposals: 1, 12, 14, & 22

- (3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.
- (4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.
- (5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
 1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
 2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

C Waiver of Electronic Submittal

- (1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.
- (2) Submit a schedule of items on paper conforming to [section 102](#) of the standard specifications. The department charges the bidder a \$75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."
- (3) In addition to the reasons specified in [section 102](#) of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
 1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
 2. The bidder fails to pay the \$75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the \$75.
 3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.
- (4) In addition to the reasons specified in [section 102](#) of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.

PROPOSAL BID BOND

DT1303 1/2006

Wisconsin Department of Transportation

Proposal Number	Project Number	Letting Date
Name of Principal		
Name of Surety	State in Which Surety is Organized	

We, the above-named Principal and the above-named Surety, are held and firmly bound unto the State of Wisconsin in the sum equal to the Proposal Guaranty for the total bid submitted for the payment to be made; we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of this obligation is that the Principal has submitted a bid proposal to the State of Wisconsin acting through the Department of Transportation for the improvement designated by the Proposal Number and Letting Date indicated above.

If the Principal is awarded the contract and, within the time and manner required by law after the prescribed forms are presented for signature, enters into a written contract in accordance with the bid, and files the bond with the Department of Transportation to guarantee faithful performance and payment for labor and materials, as required by law, or if the Department of Transportation shall reject all bids for the work described, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. In the event of failure of the Principal to enter into the contract or give the specified bond, the Principal shall pay to the Department of Transportation **within 10 business days of demand** a total equal to the Proposal Guaranty as liquidated damages; the liability of the Surety continues for the full amount of the obligation as stated until the obligation is paid in full.

The Surety, for value received, agrees that the obligations of it and its bond shall not be impaired or affected by any extension of time within which the Department of Transportation may accept the bid; and the Surety does waive notice of any such extension.

IN WITNESS, the Principal and Surety have agreed and have signed by their proper officers and have caused their corporate seals to be affixed this date: **(DATE MUST BE ENTERED)**

PRINCIPAL

(Company Name) **(Affix Corporate Seal)**

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

(Company Name)

(Signature and Title)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

(Name of Surety) **(Affix Seal)**

(Signature of Attorney-in-Fact)

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

On the above date, this instrument was acknowledged before me by the named person(s).

(Signature, Notary Public, State of Wisconsin)

(Print or Type Name, Notary Public, State of Wisconsin)

(Date Commission Expires)

Notary Seal

IMPORTANT: A certified copy of Power of Attorney of the signatory agent must be attached to the bid bond.

CERTIFICATE OF ANNUAL BID BOND

DT1305 8/2003

Wisconsin Department of Transportation

Time Period Valid (From/To)	
Name of Surety	
Name of Contractor	
Certificate Holder	Wisconsin Department of Transportation

This is to certify that an annual bid bond issued by the above-named Surety is currently on file with the Wisconsin Department of Transportation.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the annual bid bond.

Cancellation: Should the above policy be cancelled before the expiration date, the issuing surety will give thirty (30) days written notice to the certificate holder indicated above.

(Signature of Authorized Contractor Representative)

(Date)

FEBRUARY 1999

LIST OF SUBCONTRACTORS

Section 66.29(7), Wisconsin Statutes, provides that a bidder, as a part of his proposal, shall submit a list of the subcontractors he proposes to contract with and the class of work to be performed by each, provided that to qualify for such listing each subcontractor must first submit his bid in writing to the general contractor at least 48 hours prior to the time of bid closing. It further provides that a proposal of a bidder shall not be invalid if any subcontractor, and the class of work to be performed by such subcontractor, has been omitted from a proposal.

No subcontract, whether listed herein or later proposed, may be entered into without the written consent of the Engineer as provided in Subsection 108.1 of the Standard Specifications.

Name of Subcontractor	Class of Work	Estimated Value
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DECEMBER 2000

**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER
RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS**

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.
4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.
7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

- (1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:
 - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Special Provisions

Table of Contents

Article	Description	Page #
1.	Administrative.....	8
1.1.	General.....	8
1.2.	Scope of Work.....	8
1.3.	Labor Compliance Reporting – Payroll Requirements.....	9
1.4.	Field Facilities.....	9
1.5.	Other Contracts.....	10
1.6.	Notice to Contractor - Potential Borrow Sources.....	13
1.7.	Notice to Contractor – Project Storage and Staging Areas.....	13
1.8.	Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Contractor.....	14
1.9.	Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Department.....	15
1.10.	Pay Plan Quantity.....	18
2.	Prosecution and Progress.....	19
2.1.	Prosecution and Progress.....	19
2.2.	CPM Baseline Schedule, Item SPV.0060.001; CPM Schedule Monthly Updates, Item SPV.0060.002.....	32
3.	Meetings.....	41
3.1.	Non-Mandatory Pre-Bid Meeting.....	41
3.2.	Leadership Partnering Meetings.....	42
3.3.	Project Communication Enhancement Effort.....	42
3.4.	Traffic Meetings and Traffic Control Scheduling.....	42
3.5.	Coordination with Businesses.....	43
4.	Alternative Dispute Resolution.....	43
4.1.	Contract Award and Execution.....	43
4.2.	Claims Process for Unresolved Changes.....	51
5.	Insurance.....	60
5.1.	Bidding Instructions for Insurance.....	60
5.2.	Owner Controlled Insurance Program.....	60
6.	Environmental.....	68
6.1.	Environmental Protection.....	68
6.2.	Environmental Protection, Aquatic Exotic Species Control.....	69
6.3.	Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.....	70
6.4.	Construction Over or Adjacent to Navigable Waters.....	70
6.5.	Endangered Resources.....	70
6.6.	Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.....	71

6.7.	Notice to Contractor - Abatement of Asbestos Containing Material Structure B-05-107, B-05-109, B-05-114, B-05-135, B-05-136, B-05-137, B-05-138, B-05-139, and B-05-140.....	74
6.8.	Excavation of Phragmites Soil, Item SPV.0035.002.....	78
7.	Traffic and Restrictions to Work.....	80
7.1.	Traffic.....	80
7.2.	Holiday and Other Work Restrictions.....	97
7.3.	Public Convenience and Safety.....	98
7.4.	Concrete Barrier Temporary Precast.....	99
7.5.	Concrete Barrier Temporary Precast Left In Place by Others.....	99
7.6.	Crash Cushions Permanent Low Maintenance.....	100
7.7.	Crash Cushions Temporary.....	100
7.8.	Maintenance and Removal of Crash Cushions Temporary Left In Place by Others, Item SPV.0060.200.....	100
7.9.	Temporary Thrie Beam Connection, Item SPV.0060.201.....	101
7.10.	Glare Screens Temporary, Item SPV.0090.200.....	101
7.11.	Concrete Barrier Temporary Precast Anchoring, Item SPV.0090.201.....	103
7.12.	Traffic Control.....	103
8.	Utilities and Railroads.....	104
8.1.	Utilities.....	104
8.2.	Railroad Insurance and Coordination.....	114
8.3.	Adjusting Water Valve Box, Item SPV.0060.650.....	118
8.4.	Adjusting Village of Ashwaubenon Sanitary Manhole Covers, Item SPV.0060.651.....	118
8.5.	Adjusting City of Green Bay Sanitary Manhole Covers, Item SPV.0060.652.....	119
8.6.	Reconstruct Sanitary Manhole, Item SPV.0060.653.....	120
9.	Clear – Demolition – Removal.....	121
9.1.	Clearing and Grubbing.....	121
9.2.	Removing or Abandoning Miscellaneous Structures.....	122
9.3.	Abandoning Sewer, Item 204.0291.S.....	122
9.4.	Removing Drain Slotted Vane, Item 204.9090.S.01.....	122
9.5.	Salvaged Rail and Salvaged Guardrail End Treatments.....	123
9.6.	Remove Traffic Signals CTH AAA and Allied Street, Item SPV.0105.452; USH 41 and CTH AAA, Item SPV.0105.453.....	123
9.7.	Abandoning Existing Box Culvert B-05-110, Item SPV.0105.800.....	125
10.	Earthwork.....	127
10.1.	Removing Old Structure.....	127
10.2.	Embankment Construction.....	127
10.3.	Borrow.....	127
10.4.	Preparing the Foundation.....	128
10.5.	Drainage Blanket, Item SPV.0035.001.....	128
10.6.	Staged Embankment Construction.....	129
10.7.	Roadway Excavation.....	131
10.8.	Roadway Embankment, Item SPV.0035. 010.....	131

10.9.	Vibrating Wire Piezometer Instrumentation System Delivered, Item SPV.0060.004.	132
10.10.	Settlement Gauge, Item SPV.0060.005.	136
10.11.	Strip Drains, Item SPV.0090.006; Pre-Bored Strip Drains, Item SPV.0090.007.	138
10.12.	Settlement System, Item SPV.0090.008.	140
10.13.	Geotechnical Instrumentation, Item SPV.0105.006.	141
11.	Bases, Subbases and Pavements.	150
11.1.	QMP Base Aggregate.	150
11.2.	Breaker Run.	158
11.3.	Aggregate Quality Testing for High-Performance Concrete (HPC) Mixes.	158
11.4.	Asphaltic Base.	160
11.5.	Concrete Pavement.	162
11.6.	High Performance Concrete (HPC) Pavement 8-Inch, Item SPV.0180.005; 9-Inch, Item SPV.0180.006; 10 ½-Inch, Item SPV.0180.007; HES 9-Inch, SPV.0180.008; HES 10 ½-Inch, Item SPV.0180.009; Approach Slab, Item SPV.0180.013.	162
11.7.	QMP Ride; Incentive IRI Ride, Item 440.4410.S.	167
11.8.	HMA Pavement – Lower Layers Less Than 2 ¼”	174
11.9.	QMP HMA Pavement Nuclear Density.	174
11.10.	Concrete Pavement Joint Layout, Item SPV.0105.005.	181
11.11.	Concrete Pavement, Cold Weather Covering, Plastic 1 Layer, Item SPV.0180.001; Plastic 2 Layers, Item SPV.0180.002; Plastic/Hay/Plastic or Blankets, Item SPV.0180.003.	182
11.12.	Geogrid Reinforcement, Item SPV.0180.004.	183
11.13.	Colored Concrete Pavement 9-Inch, Item SPV.0180. 010.	185
12.	Bridges.	188
12.1.	Notice to Contractor, Deck Curing.	188
12.2.	Notice to Contractor, Staining Glory Road Bridge Retaining Walls.	189
12.3.	Stockpile Formliners and Stain.	189
12.4.	Debris Containment Structure B-05-109, Item 203.0225.S.700; B-05-107, Item 203.0225.S.703; B-05-114, Item 203.0225.S.704; B-05-135, Item 203.0225.S.705; B-05-136, Item 203.0225.S.706; B-05-137, Item 203.0225.S.710; B-05-138, Item 203.0225.S.711; B-05-139, Item 203.0225.S.712; B-05-140, Item 203.0225.S.713; B-05-115, Item 203.0225.S.714; B-05-124, Item 203.0225.S.715; B-05-116, Item 203.0225.S.716; B-05-132, Item 203.0225.S.717; B-05-082, Item 203.0225.S.718; B-05-083, Item 203.0225.S.719.	190
12.5.	High Performance Concrete (HPC) Masonry Structures, Item SPV.0035.700.	192
12.6.	Anchor Bolt Assembly Light Pole, Item SPV.0060.700.	198
12.7.	Anchor Assemblies Noise Barriers Structures, Item SPV.0060.701.	199
12.8.	Bar Steel Reinforcement HS Stainless Bridges, Item SPV.0085.700.	200
12.9.	Fence Decorative Bridge, Item SPV.0090.500; Fence Decorative Wing, Item SPV.0090.501.	201
12.10.	Architectural Surface Treatment, Item SPV.0165.500.	204

12.11.	Staining Concrete, Item SPV.0165.501.	206
12.12.	Staining Concrete Brick, Item SPV.0165.502.	208
12.13.	Longitudinal Grooving Bridge Deck, Item SPV.0165.700.	210
13.	Retaining Walls, Ground Support.	211
13.1.	Temporary Shoring, Item 206.6000.S.	211
13.2.	Noise Barriers Single-Sided Sound Absorptive N-05-0010-01, Item 531.0200.S.900; N-05-0011-01, Item 531.0200.S.901; N-05-0010-02, Item 531.0200.S.902; N-05-0011-02, Item 531.0200.S.903; N-05-0012, Item 531.0200.S.904; N-05-0013, Item 531.0200.S.905; N-05-0014, Item 531.0200.S.906.	212
13.3.	Wall Wire Faced Mechanically Stabilized Earth, Item 532.0700.S.	225
13.4.	Temporary Wall Wire Faced Mechanically Stabilized Earth, Item 532.0750.S.	234
13.5.	Fire Department Connectors, Item SPV.0060.900.	237
13.6.	Standpipe System, Item SPV.0060.901.	238
13.7.	Maintenance Doors, Item SPV.0060.904.	240
13.8.	Fence Decorative Wall, Item SPV.0090.502.	242
13.9.	Railing, Item SPV.0090.850.	245
13.10.	Architectural Surface Treatment, Special, Item SPV.0165.503.	247
13.11.	Prestressed Precast Concrete Wall Panel, Item SPV.0165.850.	249
13.12.	Combination Barrier N-05-0012, Item SPV.0165.900; Combination Barrier N-05-0013, Item SPV.0165.901.	256
14.	Drainage and Erosion Control.	266
14.1.	Erosion Control.	266
15.	Backfill Coarse Aggregate Size No. 1, Item 209.0300.S.	266
15.1.	Manhole and Inlet Covers.	267
15.2.	Manhole, Inlet, and Catch Basin Adjusting Rings.	267
15.3.	Cover Plates Temporary, Item 611.8120.S.	268
15.4.	Pipe Grates, Item 611.9800.S.	268
15.5.	Insulation Board Polystyrene, 2-Inch, Item 612.0902.S.01.	269
15.6.	Fine-Grained Soil, Item SPV.0035.150.	270
15.7.	Drain Slotted Vane Type A 3-FT, Item SPV.0060.100; Type B 6-FT, SPV.0060.101.	272
15.8.	Temporary Drainage Inlet 2x2-FT, Item SPV.0060.102; Inlet 2x3-FT, Item SPV.0060.103; Inlet Median 1, Item SPV.0060.104; Manhole 5-FT Diameter, Item SPV.0060.105.	273
15.9.	Temporary Inlet Cover, Item SPV.0060.106.	273
15.10.	Inlet Median 2 Grate Modified at Structure 243B, Item SPV.0060.107; Structure 244A, Item SPV.0060.108.	274
15.11.	Storm Sewer Plug, Item SPV.0060.109.	275
15.12.	Temporary Stone Ditch Checks, Item SPV.0060.110.	275
15.13.	Tracking Pad Maintenance, Item SPV.0060.150.	276
15.14.	Temporary Slope Drain, Item SPV.0060.151.	277
15.15.	Sedimentation Basin, Item SPV.0060.152.	277
15.16.	Street Sweeping, Item SPV.0075.150.	278

15.17.	Jacking Jacking Reinforced Concrete Pipe Class V 36-Inch, Item SPV.0090.100; Class V 42-Inch, Item SPV.0090.101.	278
15.18.	Drain Slotted Vane Longitudinal, Item SPV.0090.102.	281
15.19.	Temporary Drain Slotted Vane Longitudinal, Item SPV.0090.103.	281
15.20.	Geosynthetic Clay Liner, Item SPV.0180.151.	282
15.21.	Temporary Ditch Checks.	287
15.22.	Concrete Sidewalk.	288
15.23.	Concrete Barrier Curing.	288
15.24.	Concrete Barrier Transition Type V56 to S56 (36-Inch Wide Base), Item SPV.0060.003.	288
15.25.	Concrete Barrier Type S56 (36-Inch Wide Base), Item SPV.0090.001; Concrete Barrier Type S56A (36-Inch Wide Base), Item SPV.0090.002.	289
15.26.	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer, Item SPV.0090.003; Plastic 2 Layers, Item SPV.0090.004; Plastic/Hay/Plastic or Blankets, Item SPV.0090.005.	291
15.27.	Concrete Curb and Gutter 24-Inch Type D, Item SPV.0090.009.	292
15.28.	Colored and Stamped Concrete, 5-Inch, Item SPV.0180.011.	292
15.29.	Concrete Joint Sealer, Item SPV.0180.012.	297
16.	Signing and Marking.	297
16.1.	Notice to Contractor – Installation of Village Street Signs.	297
16.2.	Signing.	298
16.3.	Removing Pavement Marking.	298
16.4.	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch, Item 646.0841.S; 8-Inch, Item 646.0843.S.	298
16.5.	Pavement Marking Grooved Preformed Thermoplastic Words, Item SPV.0060.300; Arrows, Type 2, Item SPV.0060.301; Arrows, Type 3, Item SPV.0060.302.	301
16.6.	Fire Hydrant Sign Mounting, Item SPV.0060.903.	303
16.7.	Temporary Pavement Marking Epoxy 4-Inch, Item SPV.0090.305; 8-Inch, Item SPV.0090.306.	304
16.8.	Sign Blanks, Item SPV.0165.950.	305
17.	Lighting/Electrical.	306
17.1.	General Requirements for Electrical Work.	306
17.2.	Electrical Work By Others.	306
17.3.	Concrete Bases Type 7, Item 654.0107.	306
17.4.	Electrical Service Main Lugs Only Meter Pedestal (CB 300), Item 656.0400.350; Electrical Service Main Lugs Only Meter Pedestal (CB 100), Item 656.0400.351; Electrical Service Main Lugs Only Meter Pedestal (CB 200), Item 656.0400.352.	307
17.5.	Underdeck Lighting (R-05-206), Item 659.0600.350; Underdeck Lighting (R-05-209), Item 659.0600.351; Underdeck Lighting (B-05-612), Item 659.0600.352; Underdeck Lighting (B-05-618), Item 659.0600.353; Underdeck Lighting (B-05-619), Item 659.0600.354; Underdeck Lighting (R-05-214), Item 659.0600.361; Underdeck Lighting (R-05-215), Item 659.0600.362; Underdeck Lighting (R-05-216), Item 659.0600.363; Underdeck Lighting (R-05-217), Item 659.0600.364; Underdeck Lighting	

	(R-05-218), Item 659.0600.365; Underdeck Lighting (R-05-219), Item 659.0600.366.....	308
17.6.	Concrete Base Median Barrier Type 1, Item SPV.0060.351; Concrete Base Median Barrier Type 2, Item SPV.0060.352.....	309
17.7.	Concrete Control Cabinet Bases Type 10 Special, Item SPV.0060.353.....	311
17.8.	Luminaires Underdeck LED, Item SPV.0060.358.....	312
17.9.	Anchor Bolt Cover Shroud, Item SPV.0060.359.....	313
17.10.	Pullbox Drain Duct, Item SPV.0090.354.....	314
17.11.	Electrical Service Meter Breaker Pedestal Special (CB 400), Item SPV.0105.375; Electrical Service Meter Breaker Pedestal Special (CB 600), Item SPV.0105.376; Electrical Service Meter Breaker Pedestal Special (CB 700), Item SPV.0105.377.....	315
17.12.	Traffic Signal Cabinet and Controller, Intersection of CTH AAA and Allied Street, Item SPV.0105.451.....	317
18.	Intelligent Transportation Systems.....	333
18.1.	Notice to Contractor – Work by Others.....	333
18.2.	Intelligent Transportation Systems – Control of Materials.....	334
18.3.	Intelligent Transportation Systems – General Requirements.....	335
18.4.	Intelligent Transportation Systems – Conduit.....	340
18.5.	Install Pole Mounted Cabinet, Item 673.0225.S.....	340
18.6.	Install Ethernet Switch, Item 675.0400.S.....	341
18.7.	Install Video Encoder, Item 677.0300.S.....	342
18.8.	Ramp Closure Gates Solar Powered 37-FT, Item SPV.0060.400, Ramp Closure Gates Solar Powered 40-FT, Item SPV.0060.401.....	343
18.9.	Pedestal Bases Black, Item SPV.0060.402.....	348
18.10.	Transformer Bases Breakaway 11 ½-Inch Bolt Circle Black, Item SPV.0060.403.....	349
18.11.	Traffic Signal Standards Aluminum 15-FT Black, Item SPV.0060.404.....	350
18.12.	Communication Manhole, Item SPV.0060.405.....	350
18.13.	Tracer Test Station, Item SPV.0060.406.....	351
18.14.	Install Fiber Optic Cable Marker, Item SPV.0060.407.....	352
18.15.	Install Termination Panel, Item SPV.0060.408.....	352
18.16.	Install IP Radio, Item SPV.0060.409.....	353
18.17.	Salvage Camera Assembly, Item SPV.0060.410.....	354
18.18.	Salvage Pole Mounted Cabinet, Item SPV.0060.411.....	355
18.19.	Salvage Ethernet Switch, Item SPV.0060.412.....	356
18.20.	Salvage Video Encoder, Item SPV.0060.413.....	357
18.21.	Salvage IP Radio, Item SPV.0060.414.....	358
18.22.	Salvage Mounted Controller Microwave Detector Assembly, Item SPV.0060.415.....	359
18.23.	Salvage Solar Power System, Item SPV.0060.416.....	360
18.24.	Remove Wood Pole, Item SPV.0060.417.....	361
18.25.	Exposing Existing Utility, Item SPV.0060.418.....	361
18.26.	Conduit HDPE 3-Duct 2-Inch, Item SPV.0090.400; Conduit HDPE Directional Bore 3-Duct 2-Inch, Item SPV.0090.401.....	364

18.27.	Conduit HDPE 4-Duct 2-Inch, Item SPV.0090.402; Conduit HDPE Directional Bore 4-Duct 2-Inch, Item SPV.0090.403.....	365
18.28.	Conduit HDPE 5-Duct 2-Inch, Item SPV.0090.404; Conduit HDPE Directional Bore 5-Duct 2-Inch, Item SPV.0090.405.....	366
19.	Miscellaneous – Incidental Construction.....	367
19.1.	MGS Guardrail 3.....	367
19.2.	Furnishing and Planting Plant Materials.....	367
19.3.	Landscape Planting Surveillance and Care Cycles.....	371
19.4.	Fence Safety, Item 616.0700.S.	371
19.5.	Planting Mixture, Item SPV.0035.500.....	372
19.6.	Topsoil Special, Item SPV.0035.501.....	374
19.7.	Perennials: Bee Balm (Snow Queen), CG, 1 Gal, Item SPV.0060.500; Daylily (Red Hot Returns), CG, 1 Gal, Item SPV.0060.501; Feather Reed Grass (Varigated), CG, 1 Gal, Item SPV.0060.502; Little Bluestem (Jazz), CG, 1 Gal, Item SPV.0060.503; Russian Sage (Little Spire), CG 1 Gal, Item SPV.0060.504; Salvia (Marcus), CG, 1 Gal, Item SPV 0060.505.	375
19.8.	Bulbs, Tulips, Perennial Mix, Multicolor, Bulb, 12+ cm, Item SPV.0060.506.	376
19.9.	Tall Fescue Seed, Item SPV.0085.500.....	378
19.10.	Shovel Cut Edging, Item SPV.0090.503.	380
19.11.	Survey Project 1133-03-77, Item SPV.0105.001; Survey Project 1133-09-71, Item SPV.0105.002; Survey Project 1133-09-74, Item SPV.0105.003; Survey Project 1133-09-76, Item SPV.0105.004.....	381
19.12.	Shredded Hardwood Bark Mulch, Item SPV.0180.500.....	382
19.13.	Quarried Limestone Slabs, Item SPV.0180.501.	383

SPECIAL PROVISIONS

1. Administrative.

1.1. General.

Perform the work under this construction contract for:

Project 1133-03-77, DePere – Suamico, Morris Avenue – Memorial Drive, USH 41,
Morris Avenue – Ninth Street Mainline

Project 1133-09-71, DePere – Suamico, Glory Road – Morris Avenue, USH 41,
Glory Road – Morris Avenue Mainline

Project 1133-09-74, DePere – Suamico, Glory Road – Morris Avenue, USH 41,
Hansen Road Bridge

Project 1133-09-76, DePere – Suamico, Glory Road – Morris Avenue, USH 41,
Oneida Street (CTH AAA) Interchange

located in Brown County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2013 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20120615)

1.2. Scope of Work.

Project 1133-03-77

The work under this contract shall consist of grading, base aggregate dense, asphaltic base, breaker run, HMA pavement, concrete pavement, concrete barrier, concrete curb and gutter, concrete pavement approach slabs, storm sewer, culverts, steel plate beam guard, the demolition of Structures B-05-116, B-05-132, B-05-082, and B-05-083, construction of Structures B-05-630, B-05-631, B-05-632, B-05-633, R-05-50, R-05-51, R-05-69, R-05-71, R-05-216, R-05-217, R-05-218, and R-05-219, erosion control, construction of noise wall structures N-05-0010-02, N-05-0011-02, N-05-0012, N-05-0013, and N-05-0014, permanent signing, construction of sign Structures S-05-169, S-05-170, S-05-171, S-05-172, S-05-175, S-05-176, S-05-178, S-05-233, and S-05-237, traffic control, street lighting, ITS, pavement marking, landscaping and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

Project 1133-09-71

The work under this contract shall consist of grading, storm water detention pond, strip drains, base aggregate dense, asphaltic base, breaker run, HMA pavement, concrete pavement, concrete barrier, concrete curb and gutter, concrete sidewalk, concrete pavement approach slabs, storm sewer, culverts, steel plate beam guard, the demolition of Structures B-05-114, B-05-107, B-05-135, B-05-136, B-05-137, B-05-138, B-05-139, B-05-140, B-05-115, and B-05-124, abandonment of Structure B-05-110, construction of Structures B-05-612, B-05-616, B-05-617, B-05-618, B-05-619, B-05-621, B-05-622, B-05-623, B-05-624, B-05-625, B-05-626, B-05-627, B-05-628, B-05-629, R-05-35, R-05-59, R-05-206, R-05-207, R-05-208, R-05-209, R-05-210, R-05-211, R-05-212, R-05-213, R-05-214, and R-05-215, erosion control, construction of noise wall structures N-05-0010-01 and N-05-0011-01, permanent signing, construction of sign Structures S-05-12, S-05-96, S-05-159, S-05-160, S-05-161, S-05-162, S-05-163, S-05-164, S-05-165, S-05-166, S-05-167, S-05-168, S-05-173 and S-05-188 traffic control, street lighting, ITS, pavement marking, fencing, and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

Project 1133-09-74

The work under this contract shall consist of grading, base aggregate dense, breaker run, HMA pavement, concrete curb and gutter, concrete sidewalk, concrete pavement approach slabs, storm sewer, steel plate beam guard, the demolition of Structure B-05-109, construction of structures B-05-611, R-05-33, and R-05-34, erosion control, pavement marking and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

Project 1133-09-76

The work under this contract shall consist of grading, base aggregate dense, breaker run, HMA pavement, concrete pavement, concrete curb and gutter, concrete sidewalk, storm sewer, steel plate beam guard, erosion control, permanent signing, construction of sign Structures S-05-226, S-05-227, and S-05-230, traffic control, traffic signals, street lighting, ITS, pavement marking, fencing, landscaping and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

1.3. Labor Compliance Reporting – Payroll Requirements.

Submit weekly certified payrolls verifying prevailing wage rates for all work performed under the contract as directed in the civil rights and labor compliance management system manual. Submit weekly certified payrolls within 14 calendar days of the week covered by the weekly certified payroll.

1.4. Field Facilities.

The department will provide primary field facilities for this project located at 1940 West Mason Street, Green Bay, WI 54303.

Provide a second field facility within the limits of this project in accordance to the field office bid item provided in the contract.

1.5. Other Contracts.

The following projects will be under construction concurrently with the work under this contract. Coordinate trucking activities, detours, work zone traffic control, roadway and lane closures, and other work items as required with other contracts.

US 41 South Mainline

Project 1133-03-70, DePere - Suamico, Salt Storage Facility, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in August 2013 and be completed in November 2013. The work under 1133-03-70 is not expected to inhibit any construction under this contract.

Project 1133-06-88, DePere - Suamico, Orange Lane to Glory Road, Grant Street Reconstruction, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in May 2013 and be completed in September 2013. The work under 1133-06-88 is not expected to inhibit any construction under this contract.

Project 1133-09-80, DePere - Suamico, Glory Road to Morris Avenue, WIS 172 Interchange Landscaping, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in March 2016 and be completed in August 2016. Coordinate activities in this area with the 1133-09-80 contractor.

US 29 – US 41 Interchange and US 41 Central Mainline

Project 1133-03-71, DePere - Suamico, Larson Road – Memorial Drive Mainline, USH 41; **Project 1133-03-73**, DePere - Suamico, WIS 29 Interchange (Packerland Drive – US 41), STH 29; **Project 9202-07-71**, DePere - Suamico, WIS 29 Mainline (Duck Creek - Packerland Drive/CTH EB), STH 29, all projects located in Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in September 2012 and be completed in October 2014. The work under this contract will have traffic control overlap. Coordinate traffic control with the 1133-03-71/73 and 9202-07-71 contractor.

Project 1133-03-83, DePere - Suamico, WIS 29 Steel Fabrication, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in July 2010 and be completed in October 2014. The work under 1133-03-83 is not expected to inhibit any construction under this contract.

Project 1133-03-88, De Pere – Suamico, Lombardi Avenue / Argonne Street Intersection, Argonne Street, located in Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in April 2013 and be completed by June 28, 2013. The work under 1133-03-88 is not expected to inhibit any construction under this contract.

Project 1133-04-73, DePere - Suamico, WIS 29 System Interchange Landscaping, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in April 2015 and be completed in November 2015. The work under 1133-04-73 is not expected to inhibit any construction under this contract.

Project 9202-07-82, DePere - Suamico, Dousman Street Extension, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in June 2014 and be completed in March 2015. The work under 9202-07-82 is not expected to inhibit any construction under this contract.

Project 9202-07-84, DePere - Suamico, Packerland Drive/Dousman Street/Shawano Avenue Temporary Traffic Signals, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in November 2011 and be completed in October 2015. The work under 9202-07-84 is not expected to inhibit any construction under this contract.

Project 9202-08-72, DePere - Suamico, Dousman Street Obliteration, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in January 2014 and be completed in May 2014. The work under 9202-08-72 is not expected to inhibit any construction under this contract.

Project 9202-08-77, DePere - Suamico, Shawano Avenue Landscaping and Bike/Pedestrian Trail (Duck Creek – CTH EB, Dousman Street – Taylor Street), USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in August 2014 and be completed in December 2014. The work under 9202-08-77 is not expected to inhibit any construction under this contract.

Project 9202-08-78, DePere - Suamico, Pamperin Park Trail Paving and Landscaping, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in July 2013 and be completed in November 2013. The work under 9202-08-78 is not expected to inhibit any construction under this contract.

Project 9202-08-80, DePere - Suamico, Rivergrove Avenue Extension, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in August 2015 and be completed in May 2016. The work under 9202-08-80 is not expected to inhibit any construction under this contract.

IH 43/US 41 Interchange and Mainline US 41 North

Project 1133-10-71, DePere - Suamico, Velp Avenue-Duck Creek Mainline/IH 43 Interchange; **Project 1133-10-75**, DePere - Suamico, Velp Avenue (USH 141) Interchange; **Project 1133-10-77**, DePere - Suamico, Memorial Drive-Velp Avenue Mainline; **1133-10-79**, DePere - Suamico, Velp Avenue Interchange Lighting; **1133-10-83**, DePere - Suamico, Memorial Drive-Duck Creek Clearing and Grubbing; **1133-11-79**, DePere - Suamico, Deerfield Docks Trail Connection; **1133-11-85**, DePere - Suamico, IH 43 System Interchange; **1133-11-87**, DePere - Suamico, Wietor Drive Resurface, USH 41, all projects located in Brown County, Wisconsin under a department

contract. Work under this contract is anticipated to start in August 2013 and be completed in December 2014. The work under 1133-10-71/75/77/79/83 and 1133-11-79/85/87 is not expected to inhibit any construction under this contract.

Project 1133-10-72, DePere - Suamico, Lineville Road (CTH M) Interchange; **Project 1133-10-78**, DePere - Suamico, Lineville Road Interchange Lighting; **Project 1133-10-81**, DePere - Suamico, Duck Creek – Lineville Road Mainline, USH 41, all projects located in Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in August 2013 and be completed in December 2014. The work under 1133-10-72/78/81 is not expected to inhibit any construction under this contract.

Project 1133-11-71, DePere - Suamico, B-5-671 Early Steel Fabrication; **Project 1133-11-76**, DePere - Suamico, B-5-678 Early Steel Fabrication; **Project 1133-11-77**, DePere - Suamico, B-5-679 Early Steel Fabrication; **Project 1133-11-78**, DePere - Suamico, B-5-681 Early Steel Fabrication, USH 41, all projects located in Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in October 2012 and be completed in February 2014. The work under 1133-11-71/76/77/78 is not expected to inhibit any construction under this contract.

Project 1133-11-72, DePere - Suamico, East Deerfield Avenue Cul-de-sac, USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in August 2015 and be completed in April 2016. The work under 1133-11-72 is not expected to inhibit any construction under this contract.

Project 1133-11-73, DePere - Suamico, Hurlbut Street Cul-de-sac, IH 43, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in August 2015 and be completed in April 2016. The work under 1133-11-73 is not expected to inhibit any construction under this contract.

Project 1133-11-74, DePere - Suamico, IH 43 Early Structure/Early Fill, IH 43, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in September 2013 and be completed in February 2015. During tub girder erection under 1133-11-74, STH 172 ramps shall not be closed concurrently with the IH 43 interchange ramp for the same movement, as follows: Northbound USH 41 to Eastbound STH 172 (Ramp NE) and Northbound USH 41 to Southbound IH 43; Westbound STH 172 to Northbound USH 41 (Ramp WN) and Northbound IH 43 to Northbound USH 41; Westbound STH 172 to Southbound USH 41 (Ramp WS) and Northbound IH 43 to Southbound USH 41; Southbound USH 41 to Eastbound STH 172 (Ramp SE) and Southbound USH 41 to Southbound IH 43. Coordinate ramp closures with the 1133-11-74 contractor.

Project 1133-11-80, DePere - Suamico, US 41 Fencing (Memorial Drive-Lineville Road), USH 41, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in March 2016 and be completed in December 2016. The work under 1133-11-80 is not expected to inhibit any construction under this contract.

Project 1133-11-81, DePere - Suamico, IH 43 Fencing (Military Avenue-Atkinson Drive), IH 43, Brown County, Wisconsin under a department contract. Work under this contract is anticipated to start in March 2016 and be completed in December 2016. The work under 1133-11-81 is not expected to inhibit any construction under this contract.

Additional projects may be under construction concurrently with the work items under this contract. Inquire with the City of De Pere, Village of Ashwaubenon, City of Green Bay, Brown County, and the department for any additional projects anticipated to be under construction in the project area or along proposed hauls routes.

1.6. Notice to Contractor - Potential Borrow Sources.

The department has been notified of potential sources of borrow materials in the project area. A list of potential borrow sources is available from the department via the USH 41 website at <http://us41.wisconsin.gov/resources/contractor-resources>.

This information is being provided as a notice to the contractor and any materials incorporated into the project work will be required to meet the applicable portions of the standard specifications. Existing data which may be available for the listed borrow sources such as boring data collected, soil analyses completed, and minimum standard admixture information will be made available from the department. Information available will be noted in the list of potential borrow sources at the website link provided.

1.7. Notice to Contractor – Project Storage and Staging Areas.

Supplement standard spec 106.4(2) and 107.9 with the following:

To accommodate stage construction of the department planned contracts for the USH 41 Brown County program, the department will implement a review and approval process for use of storage and staging areas within the right-of-way and adjacent to the project.

Equipment and materials can be stored within the slope intercepts shown on the plan and within the footprint of the roadway or structures within the project limits. Storage of equipment and materials will not be allowed in areas which are restricted by traffic and other requirements provided in the special provisions.

Make any requests for storage and staging areas located outside of the slope intercepts or outside of the proposed roadway and structure footprints to the engineer. The request shall include the anticipated date for occupying the area, the anticipated date for vacating the area, and a proposed restoration plan for the area. Review by the department does not constitute approval.

1.8. Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Contractor.

The Federal Aviation Administration (FAA) controls the height and/or elevation of temporary and permanent features within the airspace around Austin Straubel International Airport. The department has determined that a Temporary Determination of No Hazard to Air Navigation is not needed for the below estimated crane erection heights associated with bridge, noise wall and retaining wall construction at the following locations on the project:

Determinations for bridges:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
USH 41 Northbound CD Roadway over Oneida Street	Crane for B-05-612	N44°28'11.72"	W88°04'46.84"	631' (AGL) 781' (Top of Crane)	818'
USH 41 Southbound over Parkview Road	Crane for B-05-616	N44°27'55.04"	W88°04'52.05"	635' (AGL) 785' (Top of Crane)	814'
USH 41 Northbound over Parkview Road	Crane for B-05-617	N44°27'55.04"	W88°04'52.05"	635' (AGL) 785' (Top of Crane)	814'
USH 41 Southbound over Oneida Street	Crane for B-05-618	N44°28'11.72"	W88°04'46.84"	631' (AGL) 781' (Top of Crane)	818'
USH 41 Northbound over Oneida Street	Crane for B-05-619	N44°28'11.72"	W88°04'46.84"	631' (AGL) 781' (Top of Crane)	818'
USH 41 Northbound CD Roadway over Parkview Road	Crane for B-05-621	N44°27'55.04"	W88°04'52.05"	635' (AGL) 785' (Top of Crane)	814'

Determinations for retaining walls:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
East Abutment B-05-611	Crane for R-05-33	N44°28'40.73"	W88°04'48.89"	628' (AGL) 778' (Top of Crane)	781'
Along Ramp OWD	Crane for R-05-59	N44°28'25.72"	W88°04'44.60"	610' (AGL) 760' (Top of Crane)	794'

If crane elevations will exceed the estimated notice criteria elevations in the above table, the contractor will need to prepare and submit FAA Form 7460-1 Notice of proposed construction or Alteration at least 60 days prior to the start of construction activities. The required form can be found at the following location.

<http://oeaaa.faa.gov/oeaaa/external/portal.jsp>

The contractor shall copy the engineer on any correspondence with the FAA as it relates to new determinations. The contractor must also notify the manager of Austin Straubel International Airport, telephone (920) 498-4800, if a filing of FAA Form 7460-1 is necessary. A determination concerns the effect of temporary structures on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance or regulation of any Federal, State or local government body.

1.9. Notice to Contractor – Airport Operating Restrictions, FAA Coordination by Department.

The Federal Aviation Administration (FAA) controls the height and/or elevation of temporary and permanent features within the airspace around Austin Straubel International Airport. The department has obtained Temporary Determination of No Hazard to Air Navigation for estimated crane erection heights associated with bridge, noise wall and retaining wall construction at the following locations on the project:

Determinations for bridges:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
Hansen Road over USH 41	Crane for B-05-611	N44°28'40.30"	W88°04'47.63"	643' (AGL) 793' (Top of Crane)	782'
Ramp EN over STH 172 Eastbound	Crane for B-05-622	N44°29'00.23"	W88°04'48.26"	629' (AGL) 779' (Top of Crane)	772'
Ramp EN over STH 172 Westbound	Crane for B-05-623	N44°29'05.39"	W88°04'48.72"	629' (AGL) 779' (Top of Crane)	770'
USH 41 Southbound over STH 172 Eastbound	Crane for B-05-624	N44°29'00.71"	W88°04'49.85"	629' (AGL) 779' (Top of Crane)	771'
USH 41 Northbound over STH 172 Eastbound	Crane for B-05-625	N44°29'00.45"	W88°04'48.99"	630' (AGL) 780' (Top of Crane)	771'
USH 41 Southbound over STH 172 Westbound	Crane for B-05-626	N44°29'06.19"	W88°04'50.33"	629' (AGL) 779' (Top of Crane)	768'
USH 41 Northbound over STH 172 Westbound	Crane for B-05-627	N44°29'05.76"	W88°04'49.46"	631' (AGL) 781' (Top of Crane)	769'
USH 41 Southbound over Cormier Road	Crane for B-05-628	N44°29'43.26"	W88°04'53.60"	655' (AGL) 805' (Top of Crane)	761'
USH 41 Northbound over Cormier Road	Crane for B-05-629	N44°29'42.85"	W88°04'52.31"	654' (AGL) 804' (Top of Crane)	763'
USH 41 Southbound over Morris Avenue	Crane for B-05-630	N44°30'12.67"	W88°04'56.23"	659' (AGL) 809' (Top of Crane)	768'
USH 41 Northbound over Morris Avenue	Crane for B-05-631	N44°30'12.06"	W88°04'54.80"	659' (AGL) 809' (Top of Crane)	769'
USH 41 Southbound over Lombardi Avenue	Crane for B-05-632	N44°30'33.97"	W88°04'57.86"	671' (AGL) 821' (Top of Crane)	778'
USH 41 Northbound over Lombardi Avenue	Crane for B-05-633	N44°30'33.87"	W88°04'56.70"	671' (AGL) 821' (Top of Crane)	779'

Determinations for noise walls:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
STH 172 to Lombardi Avenue	Crane for N-05-0010	N44°29'45.46"	W88°04'52.09"	659' (AGL) 809' (Top of Crane)	764'
STH 172 to Lombardi Avenue	Crane for N-05-0010	N44°29'39.61"	W88°04'51.57"	624' (AGL) 774' (Top of Crane)	763'
STH 172 to Morris Avenue	Crane for N-05-0011	N44°30'13.37"	W88°04'57.29"	659' (AGL) 809' (Top of Crane)	768'
STH 172 to Morris Avenue	Crane for N-05-0011	N44°29'18.55"	W88°05'01.61"	621' (AGL) 771' (Top of Crane)	758'
Biemeret Street to Mason Street	Crane for N-05-0012	N44°30'55.04"	W88°04'54.51"	669' (AGL) 819' (Top of Crane)	795'
Lombardi Avenue to Ninth Street	Crane for N-05-0013	N44°30'55.28"	W88°04'59.30"	668' (AGL) 818' (Top of Crane)	793'
Lombardi Avenue to Ninth Street	Crane for N-05-0013	N44°30'35.50"	W88°05'01.86"	655' (AGL) 805' (Top of Crane)	778'
Along Ramp VKB	Crane for N-05-0014	N44°30'41.20"	W88°04'55.08"	655' (AGL) 805' (Top of Crane)	785'
Along Ramp VKB	Crane for N-05-0014	N44°30'34.74"	W88°04'53.55"	645' (AGL) 795' (Top of Crane)	782'

Determinations for retaining walls:

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
West Abutment B-05-611	Crane for R-05-34	N44°28'39.78"	W88°04'46.02"	640' (AGL) 790' (Top of Crane)	789'
Between USH 41 Northbound and Pilgrim Way	Crane for R-05-35	N44°29'36.07"	W88°04'50.86"	632' (AGL) 782' (Top of Crane)	763'
Along USH 41 Southbound south of Ninth Street	Crane for R-05-50	N44°30'57.54"	W88°04'58.13"	654' (AGL) 804' (Top of Crane)	795'
Along USH 41 Northbound south of Ninth Street	Crane for R-05-51	N44°31'01.93"	W88°04'55.32"	663' (AGL) 813' (Top of Crane)	799'
Along Ramp VKC	Crane for R-05-69	N44°30'38.30"	W88°05'00.50"	644' (AGL) 794' (Top of Crane)	781'
Along Ramp VKB	Crane for R-05-71	N44°30'39.75"	W88°04'54.87"	644' (AGL) 794' (Top of Crane)	785'
South Abutment B-05-622/624/625	Crane for R-05-210	N44°29'00.24"	W88°04'50.40"	628' (AGL) 778' (Top of Crane)	770'
North Abutment B-05-622/624/625	Crane for R-05-211	N44°29'02.06"	W88°04'51.06"	629' (AGL) 779' (Top of Crane)	769'
South Abutment B-05-623/626/627	Crane for R-05-212	N44°29'05.65"	W88°04'51.20"	630' (AGL) 780' (Top of Crane)	768'
North Abutment B-05-623/626/627	Crane for R-05-213	N44°29'07.58"	W88°04'51.36"	630' (AGL) 780' (Top of Crane)	767'
South Abutment B-05-628/629	Crane for R-05-214	N44°29'43.20"	W88°04'52.30"	654' (AGL) 804' (Top of Crane)	762'
North Abutment B-05-628/629	Crane for R-05-215	N44°29'43.26"	W88°04'53.60"	655' (AGL) 805' (Top of Crane)	761'
South Abutment B-05-630/631	Crane for R-05-216	N44°30'11.14"	W88°04'56.09"	659' (AGL) 809' (Top of Crane)	768'

Roadway	Structure	Latitude	Longitude	Heights	Notice Criteria Elev.
North Abutment B-05-630/631	Crane for R-05-217	N44°30'12.37"	W88°04'56.09"	659' (AGL) 809' (Top of Crane)	768'
South Abutment B-05-632/633	Crane for R-05-218	N44°30'32.64"	W88°04'57.72"	670' (AGL) 820' (Top of Crane)	778'
North Abutment B-05-632/633	Crane for R-05-219	N44°30'33.87"	W88°04'57.71"	671' (AGL) 821' (Top of Crane)	779'

As a condition to the Determinations all cranes shall be marked and/or lighted in accordance to FAA Advisory Circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, flags/red lights – Chapters 3 (Marked), 4, 5(Red) and 12. Red light not required if the crane is lowered at night. This Advisory Circular can be found at:

http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/74452

Lighting requirements apply to:

Department to provide bullet listing of cranes/structures/streets

For all other locations not listed under the lighting requirements above, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis the contractor is encouraged to install and maintain these items in accordance to FAA Advisory Circular 70/7460-1 K Change 2.

The temporary construction equipment must be lowered to the ground when not in use and during the hours between sunset and sunrise. With approval of the engineer, and appropriately required marking and/or lighting in accordance to the FAA requirements above, temporary construction equipment may be allowed to remain erected.

Contractor must notify the manager of Austin Straubel International Airport, telephone (920) 498-4800, at least 48 hours prior to the temporary construction equipment being erected, and again when the structure is removed from the site. The airport will notify the FAA tower manager.

Any height exceeding above ground level (AGL) or above mean sea level (ASML) as indicated above will result in substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

The determinations expire unless extended, revised or terminated by the issuing FAA office. Contractor is responsible for requesting an extension of the effective period of the determinations, to be postmarked or delivered by the contractor at least 30 days prior to the expiration date, to:

Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

The FAA website has an on-line submittal process also. See:

<http://oeaaa.faa.gov/oeaaa/external/portal.jsp>.

For questions on extensions to the effective period of the determination, contact the FAA office at (847) 294-7575 and reference the Aeronautical Study Number.

Any changes to coordinates and/or heights will void this determination. Any future construction or alteration, including increase to heights, requires separate notice to the FAA.

Determinations include temporary construction equipment such as cranes, derricks, etc. which may be used during actual construction of a structure. Equipment shall not exceed the overall heights as indicated above. If contractor proposes to use temporary construction equipment of heights that exceed those shown above, it is contractor's responsibility to coordinate an amendment to the appropriate Determination directly with the FAA.

Contractor shall copy the engineer on any correspondence with the FAA as it relates to time extensions and/or new/revised determinations.

A determination concerns the effect of temporary structures on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance or regulation of any Federal, State or local government body.

1.10. Pay Plan Quantity.

A Bid Items Designated as Pay Plan Quantity

Replace standard spec 109.1.1.2 with the following:

If the schedule of items designates a bid item with a ****P**** in the title, the department will not measure that bid item. The department will use the plan quantity, the approximate quantity shown on the schedule of items, for payment unless a contract revision affects a designated bid item.

If the engineer revises the contract under standard spec 104.2, the department will adjust the quantity of designated items that are affected by the revised work. The engineer will adjust the affected quantity, with or without a contract modification as defined in standard spec 101.3, regardless of the magnitude of the revised work, which may result in either an increase or a decrease from the quantity shown on the schedule of items. The

department will measure revised work as specified in standard spec 109.1.1.1. If the engineer revises the contract to eliminate a designated item, the engineer will not pay for the designated item, except as specified in standard spec 109.5.

The approximate quantity shown on the schedule of items for a designated item is for information only and only an estimate. The engineer makes no guarantee that the quantity, which can be determined by computations based on contract information, will equal the approximate quantity shown on the schedule of items. The engineer will not make a quantity adjustment for discrepancies.

2. Prosecution and Progress.

2.1. Prosecution and Progress.

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

The contract time for completion is based on an expedited work schedule and may require extraordinary forces and equipment. The need for extraordinary forces will be dependent upon the contractors operations and sequencing. Anticipated construction operations that will require extraordinary forces shall include, but not limited to the following:

- Construction of Ramps Northwest and Southwest during 2-week closures.

- Open cut storm sewer installations during night time closures.

- Lombardi Avenue Bridge demolitions during 35 hour closures.

- Oneida Street Bridge demolitions during night time closures.

- Soil improvements along the west side of USH 41 between approximately Parkview Road and Oneida Street.

- Temporary tie ins, moving of temporary concrete barrier and temporary pavement markings prior to traffic switches.

Indicate on the proposed schedule of operations that a large force and adequate equipment will be needed to assure that the work will be completed within the established contract time.

Winter weather work, excavation of frozen ground, high ground water, dewatering during winter months, and mitigation efforts for high water table elevations shall not be considered adverse weather delays to construction. Cost for dewatering is considered incidental to construction.

Anticipate cold weather and early spring concrete paving and ancillary concrete work (curb, median barrier, etc). Plan to heat aggregates and water for mixes, and that the heating of the aggregate and water is considered incidental to those concrete items. There will be no adverse weather delay for cold weather construction.

When engaged in roadway cleaning operations, use equipment having vacuum or water spray mechanisms to eliminate the dispersion of particulate matter into the atmosphere. If vacuum equipment is employed, it must have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

The contractor is advised that there may be multiple mobilizations for such items as erosion control, traffic control, detours, signing items, temporary pavement markings and other incidental items related to the staging. The department will make no additional payment for said mobilizations.

Comply with all local ordinances which apply to construction operations. Furnish any ordinance variance issued by the municipality or any other required permits to the engineer by the contractor, in writing before performing such work.

Do not begin or continue any work that closes the freeway or ramps. Work may be performed, provided such work operations do not include ingress and egress of vehicles and equipment which would obstruct the flow of traffic on the freeway, during the two lane requirement hours as per the traffic article.

An assumed duration of specific traffic control set up and related construction activities have been included for information only. The contractor can elect to complete individual construction stages and traffic phases any time during the project contract, provided the prerequisites have been met and interim and final completion dates are met.

Under Project 1133-03-77, rough grading, drilling and erection of foundations, placement of noise panels, and final grading shall be completed within 60 calendar days for the segment of noise barrier N-5-12 from Station 2006NWC+87 to Station 2011NWC+62 (roadway Station 1007NB+08 to 1011NB+82). Contractor shall notify WPS 7 days prior to beginning rough grading operations to allow for moving of their facilities temporarily.

Freeway Work Restrictions

The Cellcom Green Bay Marathon utilizes Morris Avenue as part of the marathon route for the event that takes place yearly during mid-May. Keep Morris Avenue clear of all construction equipment beginning at 12:01 AM the day prior to the marathon to 11:59 PM the day of the marathon. The Race operations manager for Cellcom Green Bay Marathon is John Mory at (920) 606-3216. A suitable running surface must be

maintained for each year construction takes place during the event. At the engineer's direction, overlay the roadway to provide a suitable running surface. Any operations associated with providing a suitable running surface will be paid for under the pertinent items provided in the contract.

Traffic/Construction Overview

Follow the construction operations as outlined in the staging overview sheets and other plan details. Items listed below are not limited to, but only highlight construction activities, that are subject to interim completion dates, liquidated damages, or penalties.

Ramp WS Retaining Wall, Pier, and Abutment Construction

During each construction stage, the portion of Ramp WS that is under USH 41 may be closed for a maximum 60 consecutive calendar days to accommodate retaining wall, pier and abutment construction. During these closures, maintain a temporary access from STH 172 westbound to Ramp WS located west of USH 41 as shown in the traffic control plans. Once a 60 consecutive calendar day closure has elapsed, close the temporary access and switch Ramp WS traffic onto the new Ramp WS exit located along STH 172 westbound east of USH 41. Only one traffic switch will be allowed per stage.

Interim Liquidated Damages

ITS Equipment

Existing Intelligent Transportation System (ITS) equipment along USH 41 south of Morris Avenue shall be salvaged/removed by the contractor:

- Salvage Mounted Controller Microwave Detector Assembly
- Salvage Ethernet Switch
- Salvage Solar Power System
- Salvage IP Radio
- Salvage Pole Mounted Cabinet
- Remove Wood Pole

A portion of the ITS equipment salvaged from USH 41 south of Morris Avenue shall be reinstalled in the field in other locations. Damage occurring to salvaged equipment during the removal process or between the time of removal and reinstallation is the responsibility of the contractor. Equipment damaged during the removal process or between the time of removal and reinstallation will be repaired or replaced at the expense of the contractor. Salvaged equipment from the USH 41 south of Morris Avenue to be reinstalled includes:

- Mounted Controller Microwave Detector Assembly (Reinstallation paid for under Install Mounted Controller Microwave Detector Assembly bid item).
- Ethernet Switch (Reinstallation paid for under Install Ethernet Switch bid item).

Existing Intelligent Transportation System (ITS) equipment along USH 41 at Memorial Drive is to be salvaged/removed by the contractor:

- Salvage Mounted Controller Microwave Detector Assembly
- Salvage Ethernet Switch
- Salvage Solar Power System
- Salvage IP Radio
- Salvage Pole Mounted Cabinet
- Remove Wood Pole

A portion of the ITS equipment salvaged from USH 41 at Memorial Drive shall be reinstalled in the field in other locations. Damage occurring to salvaged equipment during the removal process or between the time of removal and reinstallation is the responsibility of the contractor. Equipment damaged during the removal process or between the time of removal and reinstallation will be repaired or replaced at the expense of the contractor. Salvaged equipment from USH 41 at Memorial Drive to be reinstalled includes:

- Mounted Controller Microwave Detector Assembly (Reinstallation paid for under Install Mounted Controller Microwave Detector Assembly bid item).
- Ethernet Switch (Reinstallation paid for under Install Ethernet Switch bid item).

Existing Intelligent Transportation System (ITS) equipment along USH 41 at Lombardi Avenue is to be salvaged/removed by the contractor:

- Salvage Camera Assembly
- Salvage Ethernet Switch
- Salvage Video Encoder
- (2) Salvage IP Radio
- Salvage Pole Mounted Cabinet
- Remove Wood Pole

A portion of the ITS equipment salvaged from USH 41 at Lombardi Avenue shall be reinstalled on a permanent camera pole within the same interchange. Notify Randy Asman of the WisDOT NE Region at (920) 492-7719 to coordinate a 48 window for the transition to the permanent camera pole at the Lombardi Avenue Interchange. ITS component downtime at the Lombardi Avenue Interchange and at sites upstream of Lombardi Avenue on the in place wireless communications system will be allowed during the 48 hour transitional period. Damage occurring to salvaged equipment during the removal process or between the time of removal and reinstallation is the responsibility of the contractor. Equipment damaged during the removal process or between the time of removal and reinstallation will be repaired or replaced at the expense of the contractor. Salvaged equipment from USH 41 at Lombardi Avenue to be reinstalled includes:

Camera Assembly (Reinstallation paid for under Install Camera Assembly bid item).
Ethernet Switch (Reinstallation paid for under Install Ethernet Switch bid item).
Video Encoder (Reinstallation paid for under Install Video Encoder bid item).
(2) IP Radio (Reinstallation paid for under Install IP Radio bid item).
Pole Mounted Cabinet (Reinstallation paid for under Install Pole Mounted Cabinet bid item).

Complete installation of the fiber optic cable segment from Scheuring Road to the NE Region Office and demonstrate the proper functionality of the Brown County traffic management system (including but not limited to cameras, microwave detectors and dynamic message signs) at the STOC and NE Region Office prior to removal of in place wireless communications equipment along the same segment. Notify Randy Asman of the WisDOT NE Region at (920) 492-7719 to coordinate a 48 window for the transition to fiber optic communications from an in place wireless communications system along the Scheuring Road to the NE Region Office segment. ITS component downtime along the Scheuring Road to the NE Region Office segment will be allowed during the 48 hour transitional period.

During the 48 hour transitional period from in place wireless communications to fiber optic communications, the existing Ethernet switch along USH 41 at Scheuring Road shall be salvaged. Within the same 48 hour transitional period, the salvaged Ethernet switch shall be reinstalled at the northbound USH 41 at Crabb Court dynamic message sign cabinet (DMS-05-0004) in order to allow communications via fiber optic cable and make the DMS fully operational once again. Salvaging the Ethernet switch is paid under the Salvage Ethernet Switch bid item while reinstalling the Ethernet switch is paid under Install Ethernet Switch bid item.

Supplement standard spec 108.11 as follows:

If the contractor fails to reestablish video at the Lombardi Avenue Interchange and/or reestablish wireless communications to ITS component sites upstream of Lombardi Avenue within a 48 hour transitional period to a permanent camera pole, the department will assess the contractor \$1,000 in interim liquidated damages for each calendar day in which video and/or wireless communications remain down. An entire calendar day will be charged for any period of time within a calendar day after the 48 hour transition period has ended in which video and/or wireless communications remain down.

If the contractor fails to establish fiber optic communications to ITS components along the Scheuring Road to NE Region Office segment within a 48 hour transitional period away from in place wireless communications, the department will assess the contractor \$1,000 in interim liquidated damages for each calendar day in which video and/or fiber optic communications remain down. An entire calendar day will be charged for any period of time within a calendar day after the 48 hour transition period has ended in which video and/or fiber optic communications remain down.

USH 41

Supplement standard spec 108.11 as follows:

If the contractor fails to open USH 41 to two lanes of traffic in each direction and remove all traffic control devices associated with the lane closure during times that single lane closures are not allowed including periods shown in the Traffic article, the department will assess an initial deduction of \$2,500 in interim liquidated damages and an additional \$2,500 per 15-minute interval or portion thereof in interim liquidated damages from money due under this contract for each 15-minute interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

STH 172 eastbound

STH 172 eastbound may have night time closures, as specified in the Traffic section, for the demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-622, B-05-624, B-05-625 and R-05-211 during Stages 1A, 1B and 2.

Supplement standard spec 108.11 as follows:

If the contractor fails to open STH 172 eastbound and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

STH 172 westbound

STH 172 westbound may have night time closures, as specified in the Traffic section, for the demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-623, B-05-626, B-05-627, R-05-212 and R-05-213 during Stages 1A, 1B and 2.

Supplement standard spec 108.11 as follows:

If the contractor fails to open STH 172 westbound and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

STH 172 eastbound to USH 41 southbound Ramp (Ramp ES)

Ramp ES can be closed for a maximum period of 2 consecutive calendar days during Stage 2, Phase ML-1 while a temporary connection to USH 41 is being constructed.

Ramp ES can be closed during Stage 2, Phase ML-3 while the ramp is being constructed. Ramp ES must be open to traffic prior to Stage 2, Phase ML-4.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the above work and open Ramp ES to traffic as defined above, the department will assess the contractor \$1,500 in interim liquidated damages for each calendar day that the ramp remains closed beyond 12:01 AM.

Ramp ES may have night time closures, as specified in the Traffic article, for the demolition of existing structures and erection of girders for Structure B-05-611 and open cut storm sewer installation along USH 41 southbound during Stages 1A and 1B.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp ES and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

STH 172 Eastbound to USH 41 Northbound Ramp (Ramp EN)

Ramp EN can be closed during Stage 1A, Phases ML-2 and ML-3 while portions of the ramp are being constructed. Ramp EN must be open to traffic prior to Stage 1B, Phase ML-1.

Ramp EN can be closed during Stage 2, Phase ML-4 while portions of the ramp are being constructed. Ramp EN must be open to traffic prior to Stage 2, Phase ML-5.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the above work and open Ramp EN to traffic as defined above, the department will assess the contractor \$1,500 in interim liquidated damages for each calendar day that the ramp remains closed beyond 12:01 AM.

USH 41 Northbound to STH 172 Westbound Ramp (Ramp NW)

Ramp NW can be closed for a maximum period of 14 consecutive calendar days during Stage 1A, Phases NE-4 to accommodate construction of the ramp.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp NW to traffic within 14 consecutive calendar days from the time of the approved closure of the ramp, the department will assess the contractor \$1,500 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Ramp NW may have night time closures, as specified in the Traffic section, for the demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-623, B-05-626, B-05-627 and R-05-212 during Stages 1A, 1B and 2.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp NW and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

USH 41 Southbound to STH 172 Westbound Ramp (Ramp SW)

Ramp SW can be closed for a maximum period of 14 consecutive calendar days during Stage 2, Phase SW-1 to accommodate construction of the ramp.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp SW to traffic within 14 consecutive calendar days from the time of the approved closure of the ramp, the department will assess the contractor \$1,500 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

USH 41 Southbound to STH 172 Eastbound Ramp (Ramp SE)

Ramp SE may have night time closures, as specified in the Traffic article, for the demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-622, B-05-624, B-05-625 and R-05-211 and open cut storm sewer installations along Ramp SE during Stages 1A, 1B and 2.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp SE and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval

that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

STH 172 Westbound to USH 41 Southbound Ramp (Ramp WS)

Ramp WS may have night time closures, as specified in the Traffic article, for the demolition of existing structures and erection of girders for Structure B-05-611 and an open cut storm sewer installation along USH 41 southbound during Stages 1A and 1B.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp WS and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

STH 172 Westbound to USH 41 Northbound Ramp (Ramp WN)

Ramp WN may have night time closures, as specified in the Traffic article, for an open cut storm sewer installation along USH 41 northbound during Stage 1A.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Ramp WN and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$1,000 in interim liquidated damages and an additional \$1,000 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

Parkview Road

Parkview Road can be closed for a maximum period of 45 consecutive calendar days during Stage 1B to accommodate demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-616, B-05-617 and R-05-206.

Parkview Road can be closed for a maximum period of 14 consecutive calendar days during Stage 2 to accommodate pavement replacement and curb and gutter installation along Parkview Road.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Parkview Road to one lane of traffic in each direction following the closures defined above, the department will assess the contractor \$750 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Parkview Road may have night time closures, as specified in the Traffic article, for the demolition of existing structures and erection of girders for Structures B-05-616, B-05-621 and R-05-206 during Stages 1A and 2.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Parkview Road and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$250 in interim liquidated damages and an additional \$250 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

CTH AAA (Oneida Street)

Supplement standard spec 108.11 as follows:

If the contractor fails to open CTH AAA (Oneida Street) and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$500 in interim liquidated damages and an additional \$500 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

Allied Street (North Approach)

Allied Street (North Approach) can be closed for a maximum period of 21 consecutive calendar days during Stage 2. Complete enough work to provide a paved surface to accommodate two-way traffic along Allied Street.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the above work and open Allied Street (North Approach) to one lane of traffic in each direction within 21 consecutive calendar days from the time of the approved roadway closure, the department will assess the contractor \$1,000 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Allied Street (South Approach)

Allied Street (South Approach) can be closed for a maximum period of 21 consecutive calendar days during Stage 2. Complete enough work to provide a paved surface to accommodate two-way traffic along Allied Street.

Supplement standard spec 108.11 as follows:

If the contractor fails to complete the above work and open Allied Street (South Approach) to one lane of traffic in each direction within 21 consecutive calendar days from the time of the approved roadway closure, the department will assess the contractor \$1,000 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Hansen Road

Hansen Road can be closed until the beginning of the Ashwaubenon School District's 2014-2015 school year for the demolition of existing structures and construction of Structures B-05-611, R-05-33 and R-05-34 during Stages 1A and 1B. Complete all work necessary to open Hansen Road to one lane of traffic in each direction. A paved surface for traffic must be provided.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Hansen Road to one lane of traffic in each direction prior to the Ashwaubenon School District's first day of the 2014-2015 school year, which is anticipated to occur the day after Labor Day, the department will assess the contractor \$4,000 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Pilgrim Way

Pilgrim Way between Ridge Road and Cormier Road can be closed for a maximum period of 30 consecutive calendar days during Stage 1B, which must coincide with the Cormier Road closure. The intersection of Pilgrim Way and Ridge Road must remain open. The closure may not occur during the Ashwaubenon School District school year.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Pilgrim Way to one lane of traffic in each direction within 30 consecutive calendar days from the time of the approved roadway closure, the department will assess the contractor \$750 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Pilgrim Way and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$500 in interim liquidated damages and an additional \$500 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

Cormier Road

Cormier Road can be closed for a maximum period of 30 consecutive calendar days during Stage 1B to accommodate demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-628, B-05-629, R-05-214 and R-05-215. The closure may not occur during the Ashwaubenon School District school year and must occur prior to the Morris Avenue closure.

Cormier Road can be closed for a maximum period of 30 consecutive calendar days during Stage 2 to accommodate demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-628, B-05-629, R-05-214 and R-05-215. The closure may not occur during the Ashwaubenon School District school year and must occur prior to the Morris Avenue closure.

Cormier Road can be closed for a maximum period of 14 consecutive calendar days during Stage 2 to accommodate pavement replacement and curb and gutter installation along Cormier Road. The closure may not occur during the Ashwaubenon School District school year.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Cormier Road to one lane of traffic in each direction following the closures defined above, the department will assess the contractor \$4,000 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Cormier Road and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$250 in interim liquidated damages and an additional \$250 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

Morris Avenue

Morris Avenue can be closed for a maximum period of 30 consecutive calendar days during Stage 1B to accommodate demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-630 and B-05-631. The closure may not occur during the Ashwaubenon School District school year and must follow the Cormier Road closure.

Morris Avenue can be closed for a maximum period of 30 consecutive calendar days during Stage 2A to accommodate demolition of existing structures, erection of girders, and erection of retaining wall panels for Structures B-05-630 and B-05-631. The closure may not occur during the Ashwaubenon School District school year and must follow the Cormier Road closure.

Morris Avenue can be closed for a maximum period of 7 consecutive calendar days during Stage 2B to accommodate pavement replacement and sidewalk installation along Morris Avenue. The closure may not occur during the Ashwaubenon School District school year and must follow the Cormier Road closure.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Morris Avenue to one lane of traffic in each direction following the closures defined above, the department will assess the contractor \$4,000 in interim liquidated damages for each calendar day that the work remains incomplete beyond 12:01 AM.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Morris Avenue and remove all traffic control devices associated with the night time closure within the hours defined for night time closures shown in the Traffic article, the department will assess an initial deduction of \$250 in interim liquidated damages and an additional \$250 per hour interval or portion thereof in interim liquidated damages from money due under this contract for each hour interval that lane closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

CTH VK (Lombardi Avenue)

Lombardi Avenue can be closed to vehicular traffic for a period of 35 hours during Stage 1B and Stage 2A. Complete demolition of existing structures as required in each stage. Lombardi Avenue may have night time closures, as specified in the Traffic article, for the erection of girders during for Structure B-05-632 and Structure B-05-633 in Stage 1B and Stage 2A. The Lombardi Avenue ramps to and from USH 41 are to remain open during the 35 hour closure.

Supplement standard spec 108.11 as follows:

If the contractor fails to open Lombardi Avenue to all lanes of traffic in each direction and remove all traffic control devices associated with the road closure during times that road closures are not allowed including periods shown in the Traffic article, the department will assess an initial deduction of \$2,500 in interim liquidated damages and an additional \$2,500 per 15-minute interval or portion thereof in interim liquidated damages from money due under this contract for each 15-minute interval that the road closure(s) remain. The department will administer interim liquidated damages for the road not being open to traffic under the Failing to Open Road to Traffic administrative item.

Fish Spawning

There shall be no instream disturbance of Dutchman's Creek, the drainage ditch along the east side of Pilgrim Way between Ridge Road and Cormier Road and the drainage ditch along the east side of USH 41 between Cormier Road and the pipe outlet located at approximately Station 937+94 NB RT as a result of construction activity under or for this contract, from March 1 to June 15 both dates inclusive, in order to avoid adverse impacts upon the spawning of warm water fish.

Migratory Birds

Swallow and other migratory birds' nests have been observed on or under existing bridges. All active nests (when eggs or young are present) of migratory birds are protected under the federal Migratory Bird Treaty Act.

The nesting season for swallows and other birds is usually between May 1 and August 30. Either prevent active nests from becoming established, or apply for a depredation permit from the US Fish and Wildlife Service for work that may disturb or destroy active nests. The need for a permit may be avoided by removing the existing bridge structure prior to nest occupation by birds, or clearing nests from all structures before the nests become active in early spring. As a last resort, prevent birds from nesting by installing a suitable netting device on the remaining structure prior to nesting activity. Include the cost for preventing nesting in the cost of Removing Old Structure.

2.2. CPM Baseline Schedule, Item SPV.0060.001; CPM Schedule Monthly Updates, Item SPV.0060.002.

Replace standard spec 108.4 with the following:

108.4 Critical Path Method Progress Schedule

108.4.1 Definitions

The department defines terms as follows:

Activity

A task, event or other project element on a schedule that contributes to completing the project. Activities have a description, start date, finish date, duration and one or more logic ties.

Contract Completion Date

The current extended date for completion of the contract.

Critical Path

The longest continuous path of activities through the project that has the least amount of total float. In general, a delay on the critical path will extend the scheduled completion date.

Critical Path Method (CPM)

A network based planning technique using activity durations and the relationships between activities to mathematically calculate a schedule for the entire project.

Data Date

The earliest work period after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "as-planned."

Department's Preliminary Design Schedule

The department's schedule for the contract work, developed during design, and provided to the contractor for informational purposes only.

Float

The difference between the earliest and latest allowable start or finish times for an activity.

Fragnet

A group of logically-related activities, typically inserted into an existing CPM schedule to model a portion of the project, such as the work associated with a change order.

Milestone

An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

Scheduled Completion Date

The planned project finish date shown on the current accepted schedule.

Total Float

The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date. It is the most critical total float if the start float and finish float differ.

108.4.2 Department's Preliminary Design Schedule

The department's Preliminary Design Schedule was developed during the design phase of the Contract. Its purpose was to illustrate work areas per Stage/Phase of construction. Durations and resource availability are department estimates only. Contractor is solely responsible for its use of means and methods and as such is fully responsible for determining durations based on own estimate of production and available resources. The suggested use of the department's Preliminary Design Schedule is ease of identification of work availability during each Stage/Phase and the logical relationship between the Stages/Phases. Any reliance on the department's Preliminary Design Schedule is at the sole risk of the contractor.

108.4.3 Contractor's Scheduling Responsibilities

The CPM Schedule shall be a tool capable of forward planning and monitoring the Project. The schedule will further be used as a communication tool between the contractor and the department. It will be used to illustrate the plan, develop what-if scenarios, and analyze impacts. The accuracy and completeness of the CPM Schedule will benefit both the contractor and the department.

The contractor shall submit to the department initial and monthly update schedules, each consistent in all respects with the time and order of work requirements of the contract. The project work shall be executed in the sequence indicated on the current accepted schedule. Schedules shall show the order in which the contractor proposes to carry out the work with logical links between activities, and calculations made using the critical path method to determine the controlling operation or operations. The contractor is responsible for assuring that each schedule shows a coordinated plan for complete performance of the work.

Contractor Project management personnel shall actively participate in the schedule development. Subcontractors and suppliers working on the project shall also contribute in developing and maintaining an accurate schedule.

The schedules shall be computer produced using the latest version of Primavera Project Planner, by Oracle, Inc., Bala Cynwyd, PA or compatible software. The contractor shall designate a Project Scheduler who will be responsible for scheduling the work and submit for approval a professional resume describing their experience.

108.4.4 Submittals

108.4.4.1 Initial Work Plan

At least ten business days before the Preconstruction Meeting, as scheduled in standard spec 103.10 as defined in article 4.1 Contract Award and Execution, submit an Initial Work Plan consisting of the following:

- Provide a detailed plan of activities to be performed within the first 90 calendar days of the contract. Provide construction activities with durations not greater than 21 calendar days (15 business days), unless the department accepts requested exceptions.
- Provide activities as necessary to depict administrative work, including submittals, reviews, and procurements that will occur within the first 90 calendar days of the

contract. Activities other than construction activities may have durations greater than 21 calendar days (15 business days). Allow 21 calendar days (15 business days) for department review of submittals.

Provide summary activities for the balance of the project. Summary activities may have durations greater than 21 calendar days (15 business days).

Submit/email an electronic schedule data file and a PDF plot file of the Initial Work Plan to the department.

The department will accept the contractor's Initial Work Plan or provide comments within five business days after receipt of the Initial Work Plan. Address comments and resubmit the Initial Work Plan within five business days. The department will use the initial work plan to monitor the progress of the work until the CPM Baseline Schedule is accepted.

Submit an updated version of the Initial Work Plan on a bi – weekly (every other week) basis until the department accepts the CPM Baseline Schedule. With each update, include actual start dates, completion percentages, and remaining durations for activities started but not completed. Include actual finish dates for completed activities.

108.4.4.2 CPM Baseline Schedule (Initial Schedule)

Within 60 calendar days after the notice to proceed submit a CPM Baseline Schedule and written narrative consisting of the following:

1. The CPM Baseline Schedule shall include the following:

Provide a detailed plan of activities to be performed during the entire contract duration, including all administrative and construction activities required to complete the work as described in the contract documents. Provide construction activities with durations not greater than 21 calendar days (15 business days), unless the department accepts requested exceptions.

Provide activities as necessary to depict administrative work, including submittals, reviews, procurements, inspections, and all else necessary to complete the work as described in the contract documents. Activities other than construction activities may have durations greater than 21 calendar days (15 business days). Allow 21 calendar days (15 business days) for department review of submittals.

Provide activities as necessary to depict third party work related to the contract.

Make allowance for specified work restrictions, non-working days, time constraints, calendars, and weather.

With the exception of the Project Start Milestone and Project Completion Milestone, all activities must have predecessors and successors. The start of an activity shall have a Start-to-Start or Finish-to-Start relationship with preceding activities. The completion of an activity shall have a Finish-to-Start or Finish-to-Finish relationship with succeeding activities. Use of Start-to-Finish relationships, Finish-to-Start relationships with a lag, and negative lags will not be accepted unless the department accepts requested exceptions.

Schedule all intermediate Contract required milestones (Incentive/Disincentive target dates are not considered Contract requirements) in the proper sequence and input as either a “Start-no-Earlier-Than” or “Finish-no-Later-Than” date (mandatory dates

will not be permitted.). Provide predecessors and successors for each intermediate milestone as necessary to model each Stage of the Work. Unless the department accepts a requested exception, the schedule shall encompass all the time in the contract period between the starting date and the specified completion date.

Schedules shall have not less than 150 and not more than 400 activities unless otherwise authorized by the department. The number of activities shall be sufficient to assure adequate planning of the project, to permit monitoring and evaluation of progress, and to do an analysis of time impacts. Schedule activities shall include the following:

A clear and legible description

Required constraints

Codes for responsibility, stage and area

2. Provide a written narrative with the CPM Baseline Schedule explaining the planned sequence of work, as-planned critical path, critical activities for achieving intermediate milestone dates, traffic phasing, and planned labor and equipment resources. Use the narrative to further explain:

The basis for activity durations in terms of production rates for each major type of work (number of shifts per day and number of hours per shift), and equipment usage and limitations.

Use of constraints.

Use of calendars.

Estimated number of adverse weather days on a monthly-basis.

Scheduling of permit and environmental constraints, and coordination of the schedule with other contractors, utilities, and public entities.

3. Submit/email an electronic schedule data file and a PDF plot file of the CPM Baseline Schedule to the department.

Within ten business days of receiving the CPM Baseline Schedule, the department will provide comments and schedule a meeting for the contractor to present its CPM Baseline Schedule within 15 business days of receiving the CPM Baseline Schedule.

At the meeting scheduled by the department, provide a presentation of the CPM Baseline Schedule. In the presentation, include a discussion of the staging and sequencing of the work, understanding of traffic phasing, and application of labor and equipment resources to the work. Address comments raised in the department's review.

Within five business days after the meeting, the department will accept the contractor's CPM Baseline Schedule or provide additional comments. Address the department's comments and resubmit a revised CPM Baseline Schedule within ten business days after the department's request. If the department requests justification for activity durations, provide information that may include estimated labor, equipment, unit quantities, and production rates used to determine the activity duration.

The department accepts the CPM Baseline Schedule based solely on whether the schedule is complete as specified in this section. Errors or omissions on schedules shall not relieve the contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the department, either the contractor or the department discovers that any aspect of the schedule has an error or omission, it shall be corrected by the contractor on the next update schedule.

The department will not consider requests for contract time extensions as specified in 108.10 or additional compensation for delay specified in standard spec 109.4.7 until the department accepts the CPM Baseline Schedule.

108.4.4.3 CPM Schedule Monthly Updates

Submit CPM Schedule Monthly Updates on a monthly basis after acceptance of the CPM Baseline Schedule. With each CPM Schedule Monthly Update include the following:

- Actual start dates, completion percentages, and remaining durations for activities started but not completed, and actual finish dates for completed activities.

- Additional activities as necessary to depict additions to the contract by changes and logic revisions as necessary to reflect changes in the contractor's plan for prosecuting the work. Changes that result in a change to the current Critical Path will be subject to the provisions in CPM Schedule Revisions.

- A narrative report that shall be organized in the following sequence with all applicable documents included:

 - Contractor's transmittal letter.

 - Work completed during the period.

 - Identification of unusual conditions or restrictions regarding labor, equipment or material; including multiple shifts, 6-day work weeks, specified overtime or work at times other than regular days or hours.

 - Description of the current critical path.

 - Changes to the critical path and scheduled completion date since the last schedule submittal.

 - Description of problem areas including: current and anticipated delays; cause of delay; impact of delay on other activities, milestones and completion dates; corrective action and schedule adjustments to correct the delay.

 - Pending items and status thereof, including: Permits, Change orders and Time adjustments.

 - Work planned for the next 30 calendar days, and

 - Changes to the CPM Baseline Schedule including: the addition or deletion of activities; changes to activity descriptions, original durations, relationships, constraints, calendars, or previously recorded actual dates. Justify changes to the CPM Baseline Schedule in the narrative by describing associated changes in the planned methods or manner of performing the work or changes in the work itself.

Submit/email and electronic schedule data file and a PDF plot file of the CPM Schedule Monthly Update to the department.

If additions or changes were made to the CPM Baseline Schedule since the previous update, submit an updated hard copy of the revised logic diagram as described above.

Within five business days of receiving each CPM Schedule Monthly Update, the department will provide comments and schedule a meeting as necessary to address comments raised in the department's review. Address the department's comments and resubmit a revised CPM Schedule Monthly Update within five business days after the department's request.

108.4.4.4 Three-Week Look-Ahead Schedules

Submit Three-Week Look-Ahead Schedules on a weekly basis, at the weekly construction meeting, after notice to proceed (NTP). The schedule can be hand drawn or generated by computer; however, the schedule activities must conform to the latest approved update. With each Three-Week Look-Ahead include:

- Activities underway and as-built dates for the past week.

- Planned work for the upcoming two-week period including lane closures and traffic switches.

- The activities of the Three-Week Look-Ahead schedule shall include the activities underway and critical RFIs and submittals, based on the CPM Progress Schedule. The Three-Week Look-Ahead may also include details on other activities not individually represented in the CPM Progress Schedule. Indicate the controlling items of work.

- On a weekly basis, the department and the contractor shall agree on the as-built dates depicted in the Three-Week Look-Ahead schedule or document any disagreements.

- Use the as-built dates from the Three-Week Look-Ahead schedules for the month when updating the CPM Progress Schedule.

108.4.4.5 Weekly Production Data

Provide estimated and actual weekly production curves for items of work on a weekly basis for applicable items of work as determined by the department as follows:

1. Provide data on the following items by area or station:

- Retaining Walls—SF per week

- MSE Walls

- Other Wall Types

- Bridge Construction

- Foundation Pile—each per week

- Foundation/Substructure Concrete—CY per week

- Structural Steel Girders – Each per week

- Prestressed Concrete Girders—Each per week

- Deck Formwork—SF per week

- Roadway Excavation—CY per week

- Roadway Embankment—CY per week

Roadway Structural Section

Grading/Subgrade Preparation—SY per week
Base Material Placement—Ton per week
Base Material Subgrade Preparation—SY per week
Asphaltic Base—Ton per week
Asphaltic and HMA Pavements—Ton per week
Concrete Pavement – SY per week
Concrete Pavement – CY per week

Note: Base material shall include all breaker run, base aggregate, subbase items or other base items included in the contract. Provide production information for each individual base material item.

2. For each item, indicate the actual daily production for the past week and the anticipated weekly production for the next week. Also include cumulative production curves showing the production information for each item to-date.
3. Submit the data in an electronic spreadsheet format at the same time the Three-Week Look-Ahead is submitted. On a weekly basis, the department and the contractor shall agree on the production data or document any disagreements.

108.4.5 Progress Review Meetings

108.4.5.1 Weekly Progress Review Meetings

After completing the weekly submittal of the Three-Week Look-Ahead and production data, attend a weekly meeting to review the submittals with the department. At the meeting, address comments as necessary, and document agreement or disagreement with the department.

108.4.5.2 Monthly Update Review Meetings

After submitting the monthly update and receiving the department's comments, attend a job-site meeting, as scheduled by the department, to review the progress of the schedule. At that meeting, address comments as necessary, and document agreement or disagreement with the department. The monthly meeting will be coordinated to take place on the same day and immediately before or after a weekly meeting, whenever possible.

108.4.6 CPM Schedule Revisions

108.4.6.1 Revision by the Contractor

If necessary, due to changes in the work or project conditions, and authorized by the department, the contractor may submit a revised CPM Schedule Monthly Update and/or CPM Baseline Schedule. Prepare the revised schedule(s) in the same format as required for the CPM Schedule Monthly Update and/or CPM Baseline Schedule. Include an updated written narrative, detailing all schedule modifications and justification for the changes. The process for comment and acceptance of the CPM schedule(s) revision will be the same as for a CPM Schedule Monthly Update and/or CPM Baseline Schedule. If the revised schedule(s) is accepted, prepare the next monthly update based on the revised CPM Schedule Monthly Update and/or CPM Baseline Schedule. If the revised

schedule(s) is rejected, prepare the next monthly update based on the previous month's update.

108.4.6.2 Department's Right to Request Revisions

The department will monitor the progress of the work and may request revisions to the CPM Schedule Monthly Update and/or the CPM Baseline Schedule. Revise the schedule(s) as requested by the department, and submit a CPM Schedule Monthly Update and/or CPM Baseline Schedule revision within ten business days of the request. The process for comment and acceptance of the revised schedule(s) will be the same as for the CPM Schedule Monthly Updates and/or the CPM Baseline Schedule. The department may request schedule revisions for one or more of the following reasons:

- The project scheduled completion date(s) and/or interim completion date(s) are scheduled to occur more than 14 calendar days after the contract completion date.

- The department determines that the current schedule(s) is not an accurate record of the as-built work and/or is not an accurate forecast of the remaining work.

- A contract change order requires the addition, deletion, or revision of activities that causes a change in the contractor's work sequence or the method and manner of performing the work.

- Changes to the current update result in changes to the critical path.

108.4.7 Requests for Time Extension

In the event the contractor believes it is entitled to an extension of the contract completion date, or any interim milestone date, furnish the following for a determination by the department: justification, project schedule data, and supporting evidence as the department may deem necessary. Submission of proof of excusable delay, based on revised activity logic, duration, and costs (updated to the specific date that the delay occurred) is a condition precedent to any approvals by the department.

Justification of Delay

The project schedule shall clearly display that the contractor has used, in full, all the float time available for the work involved with this request. The department's determination as to the number of allowable days of contract extension shall be based upon the project schedule updates in effect for the time period in question, and other factual information. Actual delays that are found to be caused by the contractor's own actions, which result in a calculated schedule delay, will not be a cause for an extension to contract completion date, or any interim milestone date.

Submission Requirements

Submit a justification for each request for a change in the contract completion date of less than two weeks based upon the most recent schedule update at the time of the NTP or constructive direction issued for the change. Such a request shall be in accordance to the requirements of other appropriate Schedule Provisions and shall include, as a minimum:

- A list of affected activities, with their associated project schedule activity number.

- A brief explanation of the causes of the change.

- An analysis of the overall impact of the changes proposed.

- A sub-network of the affected area.

Identify activities impacted in each justification for change by a unique activity code.

Additional Submission Requirements

The department may request an interim update with revised activities for any requested time extension of over two weeks. Provide this data within five days of the department's request.

Not Considered Delays

The department will not grant time extensions to the interim completion dates as specified for the following:

Delays in material deliveries.

Labor disputes that are not industry wide.

The department will grant time extensions to the interim completion dates specified above for severe weather as provided for in the Article for Incentive/Disincentive for Interim Completion of Work.

108.4.8 Payment for CPM Baseline Schedule and CPM Schedule Monthly Updates

The department will pay for measured quantities at the contract unit price for work acceptably completed under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.001	CPM Baseline Schedule	Each
SPV.0060.002	CPM Schedule Monthly Updates	Each

The department will only make progress payments for the value of materials, as specified in standard spec 109.6.3.2.1, until the contractor has submitted the CPM Baseline Schedule. The department will retain ten percent of each estimate until the department accepts the CPM Baseline Schedule. Payment is full compensation for all work required under these bid items, including the three week look ahead. The department will pay the contract unit price for the CPM Baseline Schedule after the department accepts the schedule.

Thereafter, the department will pay the contract unit price for each CPM Schedule Monthly Updates that is accepted by the department. The department may, at its sole discretion, choose to suspend the requirement for one or more monthly updates. Should the requirement be suspended, the department will give the contractor a minimum five work-day notice prior to the next scheduled update.

3. Meetings.

3.1. Non-Mandatory Pre-Bid Meeting.

Supplement standard spec 102.3.1 with the following:

Prospective bidders are invited to attend a pre-bid meeting on May 28, 2013 at 10:00 AM at the WisDOT Project Field Office, 1940 West Mason Street, Green Bay, WI 54303.

The meeting is not mandatory. No meeting minutes will be prepared. Issues discovered at the meeting which may impact the contract will be handled by addendum.

3.2. Leadership Partnering Meetings.

The department will implement mandatory leadership partnering meetings on this contract.

Key members of the contractor project team, major subcontractors' project team shall meet with department leadership on a bi-weekly or as needed basis. Attendance at this meeting shall include project level supervisory personnel, corporate/state level management personnel, and key project personnel of the contractor's principal subcontractors and suppliers. Project design engineers, FHWA, local government representatives, environmental regulators, emergency service personnel, utility companies, impacted business and/or landowners, and other stakeholders may also be invited to attend, as needed.

This meeting will facilitate communication between parties and review issues and issues resolution procedures, help resolve disputes timely, satisfactorily, and as near as possible to the originating level of the dispute.

All Leadership Partnering Meetings costs are incidental to the contract work.

3.3. Project Communication Enhancement Effort.

Use the Project Communication Enhancement Effort (PCEE) tools on this contract. Coordinate with the department to modify the various published tools as necessary to meet the particular project needs and determine how to implement those tools under the contract. Ensure the full participation of the contractor and its principal subcontractors throughout the term of the contract.

Forms and associated guidance are published in the PCEE Manual available at the department's Highway Construction Contract Information (HCCI) web site at:

<http://roadwaystandards.dot.wi.gov/standards/admin/pcee-user-manual.doc>

3.4. Traffic Meetings and Traffic Control Scheduling.

Every Wednesday by 10:00 AM, submit a detailed proposed two week look-ahead traffic closure schedule to the engineer. Type the detailed proposed two week look-ahead closure schedule into an excel spreadsheet provided by the engineer. Enter information such as closure dates, duration, work causing the closure and detours to be used. Also enter information such as ongoing long-term closures, emergency contacts and general two month look-ahead closure information into the excel spreadsheet.

As scheduled by the engineer, attend a traffic meeting. The meeting will bring local agencies, project stakeholders, owner managers, owner engineers, contractors, document control and construction engineering personnel together to discuss traffic staging, closures and general impacts. Upon obtaining feedback from the meeting attendees, edit, delete and add information to the detailed two week look-ahead closure schedule, as needed. Submit the revised two week look-ahead to the engineer.

Obtain approval from the engineer for any mid-week changes to the closure schedule. Revise the two week look-ahead as required and obtain engineer approval.

3.5. Coordination with Businesses.

The contractor shall arrange and conduct meetings between the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. The first meeting shall be held prior to the start of work under this contract and as needed or directed by the engineer.

4. Alternative Dispute Resolution.

4.1. Contract Award and Execution.

Supplement standard spec 103 as follows:

103.9 Bid Escrow Documentation

The department will require the lowest responsible bidder to submit documentation to be placed in escrow at a document storage facility. Bid Escrow Documentation (BED) consists of writings, working papers, computer printouts, charts, and data compilations that contain or reflect information, data, calculations or assumptions used by the bidder to determine the proposal submitted. If the apparent low bid is withdrawn or rejected, the second low bidder will provide the required documents as specified below within 72 hours of written notification by the department.

The BED shall clearly itemize the contractor's estimated costs of performing the scope of work defined in the contract.

The BED shall include, but not be limited to, all quantity takeoffs, rate schedules for the direct costs of craft labor, construction (expendable materials), construction equipment ownership costs, construction equipment operating costs, permanent materials subcontractors and insurance. Also include development of rates of production including, where appropriate: estimate of crews, construction materials, construction equipment, and construction sequence and duration. Submit the BED for each subcontractor whose total subcontract costs exceed \$500,000.

Identify the allocation of construction plant and equipment, time and non-time related indirect costs (including if applicable joint venture fees), home office overhead, contingencies and margin applicable to each bid item. Further, documentation shall

include consultant's reports, final estimate adjustment calculations, and all other information used by bidders to arrive at the estimate.

Any manuals standard to the industry used by the bidder in determining the proposal are also considered part of the BED. These manuals may be included in the proposal documentation by reference and shall show the name and date of the publication and the publisher.

It is not necessary to include documents provided by the department for the bidder's use in the preparation of the proposal.

The low bidder shall present authentic copies of their BED at the department's office, located at 1940 West Mason Street, Green Bay, WI by July 26, 2013, at 10:00 AM.

At the time of submittal, only designated representatives of the apparent low bidder and the department will jointly examine the apparent low bidder's bid documentation to determine if it is authentic, legible, and generally meets the requirements of this special provision. The department will not share the BED information with, or in any other way divulge the contents of the apparent low bidder's BED to, their subcontractors or any other party.

The department, if requested by apparent low-bidder subcontractors, will also independently examine the BED submitted by the apparent low bidder's subcontractors in the same manner as the apparent low bidder's BED was examined. Only designated representatives of the individual subcontractor and the department will be present during this examination. The department will not share the BED information with, or in any other way divulge the contents of a subcontractor's BED to, the apparent low bidder or any other party.

The department's examination of the BED will not include review of, nor will it constitute approval of, proposed construction methods, estimating assumptions, or interpretation of the contract. The examination will not alter any conditions or terms of the contract. The department will determine if the BED complies with this special provision within 4 hours after the time the BED is submitted. If the BED does not meet the requirements of this special provision, the department may reject the bid.

If the BED of the apparent low bidder meets the requirements of this special provision, the department and bidder will jointly deposit the BED at an agreed document storage facility. Place the BED in a sealed envelope or container clearly marked with the bidder's name and address, date of submittal, project name and identification number. Representatives of the department and the bidder will deliver all bid escrow documentation and the original affidavit directly to a document storage facility, to be placed in escrow.

If the apparent low bid is withdrawn or rejected, the designated representative of the second low bidder and the department will examine and inventory the bid documentation of the second low bidder and their subcontractors in the manner specified above, then seal and deposit in escrow. If a subcontractor with a subcontract exceeding \$500,000 is replaced, the contractor shall submit new BED for examination and escrow before the engineer will authorize the substitution.

The department will pay for the costs of the escrow document storage facility and will provide escrow instructions to the document facility consistent with this special provision.

The department acknowledges that the bidder considers that the BED constitutes trade secrets or proprietary information. This acknowledgment is based upon department's understanding that the information contained in the BED is not known outside each bidder's business, is known only to a limited extent and by a limited number of employees of bidder, is safeguarded while in bidder's possession, and may be valuable to bidder's construction strategies, assumptions and intended means, methods and techniques of design and construction. Except as set forth in the contract or as required by applicable Law, the department acknowledges that the BED will remain in the possession of the Escrow Agent at all times and will at no time be received by, or become the property of, the department.

Submit a copy of the affidavit below, signed under oath before a Notary Public by a representative of the bidder authorized to execute proposals. Department representatives will sign the affidavit after reviewing the BED.

The BED will remain in escrow until:

- The bidder and the department mutually agree to release of the BED;
- A court orders the department to provide the BED;
- A dispute is referred to the Dispute Review Board or claims review panel; or
- Either party seeks judicial review of a dispute.

If any of the events numbered 1-4 above occurs, the department will take possession of all relevant portions of the BED, as determined by the department, until complete resolution of the issue for which the request was made or the court order was issued. In absence of such actions, and provided the bidder signs an appropriate release, the unopened BED will be released to the bidder upon final acceptance and the expiration of all warranty periods provided by this contract.

BID ESCROW DOCUMENTATION CERTIFICATION

Using this BID ESCROW DOCUMENTATION CERTIFICATION, the bidder certifies that the material submitted below constitutes all the documentary information used in preparation of the bid and that said bidder has fully examined the contents of the container and that they are complete. The undersigned Wisconsin Department of Transportation representatives have reviewed the BED for compliance.

BIDDER

(Name of Bidder)
By: _____
(Signature*)
Title: _____
Date: _____

WITNESS

(Name of Witness)
By: _____
(Signature*)
Title: _____
Date: _____

WISCONSIN DOT

(Name of Department Representative)
By: _____
(Signature*)
Title: _____
Date: _____

WISCONSIN DOT

(Name of Department Representative)_
By: _____
(Signature*)
Title: _____
Date: _____

(END OF BID ESCROW DOCUMENTS)

103.10 Mobilization Workshops

103.10.1 Workshop Schedule

After contract award, attend the following workshops. Each workshop is described below and will include but not be limited to the following topics.

	Workshop Schedule	Date
1.	Project Kickoff: Includes Initial Work Plan, Cost Reduction Incentives, Utility Coordination, Submittals and CPM Progress Schedule	TBD
2.	Partnering (Initial Meetings)	TBD
3.	Notice to Proceed	TBD

If necessary, the engineer may modify the workshop schedule to ensure attendance by the necessary department and contractor personnel; however, all workshops will be completed prior to issuing the Notice to Proceed.

103.10.2 Workshop

103.10.2.1 Project Kickoff

103.10.2.1.1 General

The Project Kickoff Workshop will provide a forum to discuss and answer questions relative to the proposal, bid schedule, and other questions in the Project Questionnaire described in standard spec 103.10.2.1.2. The Initial Work Plan will include:

Contractor responses to the attached Project Questionnaire.

Department presentation of the use of CPM scheduling on the project and presentation of the department's Master Schedule to the contractor.

Contractor presentation of its conceptual work plan for the project.

Department and contractor discussion of the level of detail and features in the Initial Work Plan and the Baseline CPM Progress Schedule.

103.10.2.1.2 Project Questionnaire

Provide the following information in the order shown below. This information will constitute the "Project Questionnaire."

General Information

If a Joint Venture, provide information for each member of the Joint Venture.

1. Provide the following information about the company:
 - Firm Name
 - Address
 - Telephone and facsimile numbers; e-mail address
 - Contracting Specialties
 - Years performing work in contracting specialties
 - Geographic areas served
 - Total Management Employees and years of service

Project Managers
General Superintendents
Craft Superintendents
Engineers
Estimators
CPM Schedulers

Construction Engineering

Provide/attach a copy of your Construction Project Manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Provide (if applicable) your third-party construction engineering firms.

Provide plan for Construction surveying.

Subcontractors

Attach the list of all subcontractors that are intended for this Project and the items of work they shall perform.

Permanent Material Suppliers

Attach the list of all permanent material suppliers that are intended for the project.

Quality Control (where applicable)

Provide the name of your Construction Quality Control firm and qualifications indicating the firms' experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Provide/attach a copy of your Construction Quality Control Manager's resume indicating the manager's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

List the major elements and/or Table of Contents of your Construction Quality Management Program.

Provide the name of your Independent Quality Control Testing firm (Construction Quality Control Lab) and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Organization Chart

Provide a functional and personnel Organization Chart showing the authority and responsibilities of each individual identified.

Work Rules

Provide the plan for hours per day, days per week, and number of shifts for key elements of work; i.e. retaining wall construction, roadway excavation, bridge structures, and roadway structural section activities.

Maintenance of Traffic

Provide the name of your Traffic Control Manager and qualifications indicating the firm's experience in similar major construction projects. The resume shall include similar projects with references. (Note: references are only for verification of work scope performed).

Include an outline of your approach to the Maintenance of Traffic and how you shall stage the construction to meet the substantial completion schedule.

Attach a copy of your Preliminary Schedule indicating your approach to achieving the substantial completion schedule.

Construction

Provide the approach (type of equipment, number of crews, and where required ground support systems) for the following activities.

Retaining wall construction by type of work.

Bridge demolition.

Roadway structural section.

Roadway excavation.

Office and yard facilities.

103.10.2.3 Cost Reduction Incentives

The Project Kickoff Workshop will identify value enhancing opportunities and consider modifications to the plans and specifications that will reduce either the total cost, time of construction or traffic congestion, without impairing, in any manner, the essential functions or characteristics of the project, including, but not limited to, service life, economy of operation, ease of maintenance, benefits to the traveling public, desired appearance, or design and safety standards.

The contractor may submit recommendations resulting from the workshop for approval by the engineer as cost reduction incentive proposals in conformance with the provisions in standard spec 104.10 "Cost Reduction Incentive".

The department and the contractor may be able to complete the CRI Concept process, as specified in standard spec 104.10.2, during the CRI workshop.

The contractor may submit CRIs after the CRI workshop that were not introduced at the CRI workshop.

103.10.2.4 Utility Coordination

The Project Kickoff Workshop will define the scope and schedule of utility relocation work and the respective rules and responsibilities of the project team.

1. At a minimum, the following key personnel will attend the Utility Coordination Meeting.

- 1.1 Department's Utility Coordinator.

- 1.2 Contractor's Utility Coordinator.
- 1.3 Designer Team's Utility Coordinator.
- 1.4 Key Utility Company Representative(s)
- 2. At a minimum, the Utility Coordination Meeting will include a review of the following:
 - 2.1 Summary of all required utility relocations on the project.
 - 2.2 Special provisions addressing utility work.
 - 2.3 Sharing of contact information.
 - 2.4 Scheduling of work for utility relocation including critical milestones and staging for the work.

103.10.2.5 Submittals

The Project Kickoff Workshop will identify the key required submittals for the project, categorize submittals into functional areas, and develop a schedule for submittals and submittal reviews. The Workshop participants will at a minimum:

- 1. Review the project special provisions.
- 2. Categorize submittals into functional areas including but not limited to:
 - 2.1 MSE Retaining Walls
 - 2.2 Temporary Shoring
 - 2.3 Falsework and Formwork
 - 2.4 Girder Shop Drawings
 - 2.5 Steel Transportation, Delivery and Erection
 - 2.6 Structure Demolition Plans
 - 2.7 Pile Hammers and High Capacity Piling
 - 2.8 Concrete/ Asphalt
 - 2.9 Materials
 - 2.10 ITS / Lighting

2.11 Traffic Signals

2.12 Sanitary Sewer and Water

2.13 Permits

3. Develop a schedule for submittals.

103.10.2.6 CPM Progress Schedule

The Project Kickoff Workshop will provide a forum to discuss department requirements for CPM scheduling and the development of the baseline CPM schedule. At a minimum, the CPM Progress Schedule Workshop will include:

1. Discussion of CPM scheduling best practices.
2. Contractor presentation of its Initial Work Plan and comments on the Master Schedule.
3. Department presentation of comments on the Initial Work Plan.
4. Discussion of finalization of the Initial Work Plan and development of the Baseline CPM Progress Schedule.

103.10.2.7 Partnering (Initial Session)

Prepare for and participate in the initial partnering session as specified in the article Partnering Meetings.

103.10.3 Payment for Mobilization Workshops

All mobilization workshop costs are incidental to the contract work.

4.2. Claims Process for Unresolved Changes.

Add the following to standard spec 105.13.2(2):

3. When filing the notice of claim, use the “Initial Notice Claim Record” form developed for the USH 41 corridor. The Initial Notice Claim Record establishes the claim nature and circumstances. The claim nature and circumstances must remain consistent. Request the form from the engineer.

Supplement standard spec 105.13.4(1) with the following:

When submitting the claim, use the “Final and Full Claim Record” form developed for the USH 41 corridor. Request the form from the engineer.

Supplement standard spec 105.13.5 with the following:

The department will conduct an initial review phase and a decision phase to resolve the claim in accordance to standard spec 105.13.5. At any point in these two phases, the department may waive its review and request a dispute review board (DRB).

Replace standard spec 105.13.5(4) with the following:

⁽⁴⁾ In the appeal phase, the contractor will have up to 28 calendar days from the date of the region's decision to request a dispute review board hearing. If the contractor does not submit a written request to the region within those 28 days, the region's decision is final. If the region does not render a decision within the 28 calendar days specified in standard spec 105.13.5(3), the region will forward the claim to the DRB as if the region had rejected the contractor's claim.

Replace standard spec 105.13.6 and 105.13.7 with the following:

105.13.6 Dispute Resolution

105.13.6.1 Definitions

Agreement Formal	Dispute Review Board Three-Party Agreement
Bureau	Bureau of Project Development
Contract	The construction contract between the prime contractor and Wisconsin Department of Transportation.
Contractor	Prime contractor
Department	Wisconsin Department of Transportation
Dispute	An issue, claim, change order request, or other controversy that remains unresolved following good faith negotiations between authorized representatives of the department and contractor.
Dispute Review Board	One or three neutral individuals mutually selected by the department and contractor to review disputes and render findings and recommendations based on the contract.
DRB	See Dispute Review Board.
Project Manager	Region project manager assigned to administer, oversee, and manage the project.
Regional Construction Oversight Engineer	Bureau of Project Development engineer assigned to the WisDOT region in which the claim or dispute originated.
Standard Specifications	State of Wisconsin Standard Specifications for Highway and Structure Construction – Edition in effect with contract.
WTBA	Wisconsin Transportation Builders Association

105.13.6.2 Dispute Review Board (DRB)

The purpose of a DRB is to resolve claims in a manner that complies with the contract, is impartial, and expedites the standard claims process. The DRB will do so by issuing recommendations that may be binding or non-binding depending on the claim amount.

It must be emphasized and firmly understood that individual DRB members are not the "representative of" or "advocate for" the party which selected them. The entire DRB will function as an objective, impartial, and independent body at all times. In order to avoid any suggestion of partiality, there should be no individual communication in regard to the project between DRB members and employees of the contractor or department during the life of the DRB. The parties shall direct any matters needing attention between members of the DRB to the chair of the DRB. The regional construction oversight engineer or their designee will engage the DRB process. The DRB will impartially consider the dispute(s) referred to it.

105.13.6.3 Selection of Members and Agreement for Services

The department and the contractor will cooperatively establish the DRB promptly after contract execution.

105.13.6.3.1 General

A three member DRB shall be established.

105.13.6.3.2 Experience

It is desirable that all DRB members be experienced with the construction process including design, construction, contract administration, contract law, and resolution of construction disputes.

It is not necessary that the DRB members be intimately familiar with the specific type of construction involved in the dispute. The DRB may consult technical and legal experts if the need arises under the terms of standard spec 105.13.6.4.6 Special Services described below.

All DRB members shall have attended the one-day DRB panel member workshop offered by the Dispute Review Board Foundation, or its substantial equivalent in other training, or shall be a qualified DRB panel member in another state which has training as a prerequisite to qualification for service on DRB panels.

105.13.6.3.3 Neutrality

It is imperative that the DRB members be neutral, act impartially, and be free of any conflict of interest.

The term "member" also includes the member's current primary or full-time employer, and "involved" means having a contractual relationship with either the department or the contractor, such as a subcontractor, architect, engineer, or construction manager.

105.13.6.3.4 Prohibitions; Disqualifying Relationships for Prospective Members

An ownership interest in any entity involved in the construction contract, or a financial interest in the contract, except for payment for services on this Dispute Review Board;

Previous employment by, or financial ties to, any party involved in the construction contract within a period of 6 months prior to award of the contract, except for fee-based consulting services on other projects;

A close professional or personal relationship with any key member of any entity involved in the construction contract which, in the judgment of either the department or the contractor, could suggest partiality; or

Prior involvement in the project of a nature that could compromise the prospective member's ability to participate impartially in the DRB's activities.

105.13.6.3.5 Prohibitions; Disqualifying Relationships for Members

Employment, including fee-based consulting services, by any entity involved in the construction contract.

Discussion concerning, or the making of, an agreement with any entity involved in the contract regarding employment after the contract is completed.

105.13.6.3.6 Disclosure Statement

As a part of the selection process, each prospective DRB member will be required to submit a complete disclosure statement for the approval of both the department and the contractor. Each statement shall include a resume of experience, together with a declaration describing all past, present, and anticipated or planned future relationships, including indirect relationships through the prospective member's primary or full-time employer, to this project and with the department or the contractor, or others involved in the contract, including subcontractors, suppliers, design professionals, and consultants. Disclosure of close professional or personal relationships with all key members of the department or the contractor or other parties involved in the construction contract shall be included.

105.13.6.3.7 Statewide Standing Roster

The department and WTBA have established a statewide standing roster of prequalified DRB members.

105.13.6.3.8 Selection Process

When establishing a 3-member DRB for a particular project or dispute, the department and the contractor will each select 1 DRB member. The two selected DRB members shall then jointly select a chair for the DRB. The disputing parties may mutually place restrictions on the chair selection. Any restriction agreed upon by the disputing parties will be communicated to the DRB members charged with selecting chair.

After being selected, DRB member(s) must submit an updated disclosure statement to the department and contractor for review and approval. DRB members do not need to be on the Statewide Standing DRB Roster in order to be selected. However, if a DRB member (chair or non-chair) is selected from outside the standing roster, the proposed DRB

member must meet all the aforementioned criteria and disclosure requirements and both disputing parties must approve the selection.

If a party disputes the qualification of a proposed DRB member (from the Statewide Standing DRB Roster or from outside the Roster), the disputing party shall identify what disqualifies the proposed neutral. The department and the contractor shall then jointly determine whether the candidate will be accepted on the DRB. If the candidate is rejected, the party responsible for the selection shall select another candidate and again seek approval from the other party(s).

105.13.6.3.9 Tenure of DRB

Once a DRB is engaged on a project, the DRB will be deemed established for any subsequent disputes that may require a DRB in accordance to standard spec 105.13.

The DRB will be dissolved as of the date of final payment to the contractor unless earlier terminated or dissolved by mutual agreement of the department and contractor.

105.13.6.3.10 Three-Party Agreement

After DRB member selections have been made, the DRB member(s) and authorized representatives of the department and the contractor shall execute the Formal Dispute Review Board Three-Party Agreement that sets forth the terms and conditions that apply to services provided by the DRB including procedures for standard operation of the DRB, use of the DRB in an advisory role, periodic site visits, and any other pertinent terms. The department, contractor, and all three DRB members will execute the DRB agreement within 14 calendar days after the selection of the chairperson. Payment for the DRB shall be in accordance to standard spec 105.13.7.

105.13.6.4 Operation

In general, the DRB will operate in accordance to the guidelines established. However, it is not desirable to adopt hard-and-fast rules for the functioning of the DRB. The entire procedure shall be kept flexible to adapt to changing situations. The DRB shall initiate, with the department and contractor's concurrence, new procedures or modifications to existing procedures whenever this is deemed beneficial and appropriate.

The department and the contractor will cooperate to ensure that the DRB considers disputes promptly, taking into consideration the particular circumstances and the time required to prepare appropriate documentation.

Procedures and time periods may be modified by mutual agreement of the disputing parties.

105.13.6.4.1 Contract Documents, Reports and Information

The department will provide a set of plans and specifications to each DRB member. The department and contractor will provide the DRB requested reports, documents or other information needed to completely understand and review the dispute. The DRB may not

request reports, documents, or other information that are not normally generated by the department or the contractor in the course of construction of the project.

105.13.6.4.2 Scheduling Review

The regional construction oversight engineer and DRB chair shall schedule the hearing. The DRB will set a date and location for a hearing no earlier than 30 calendar days but no later than 60 calendar days after the receipt of a written request for a DRB hearing.

After conferring with both the department and the contractor, the DRB Chairperson will establish a submittal schedule so that adequate time is allowed for the each party to address the other party's statements and supporting documentation before the presentation.

105.13.6.4.3 Pre-presentation Requirements

Concise written position statements shall be prepared by both the department and the contractor, with page number references to any supporting documentation. The position statement shall be submitted to each DRB member and to the other party. Submit one copy to each DRB member and 3 copies to the other disputing party at least 14 calendar days prior to the DRB hearing. Both parties will be allowed to amend or append information to their position statement up to 7 calendar days prior to the hearing. Any amendments or appendages shall be copied to the involved parties as prescribed for the position statement.

In large dollar amount disputes or disputes involving complex issues, the DRB may meet privately to review the information provided, discuss the procedures to be followed in hearing the dispute and the method of presentation to be followed. The DRB may also call a pre-meeting conference to discuss procedures with both the department and the contractor.

At least 7 calendar days prior to the date scheduled for a hearing, each party must submit to the DRB Members and to the other party a list of the persons who will attend and/or represent them at the hearing.

105.13.6.4.4 Presentation

Unless otherwise agreed by the DRB, the department, and the contractor, the presentation will be conducted at the nearest department region office. However, any location that would be more convenient and still provide all required facilities and access to necessary documentation is satisfactory.

The department and the contractor shall have representatives at all presentations. The DRB will establish which party will make its presentation first. The department and the contractor will be allowed successive rebuttals until all aspects are fully covered. The DRB members and the department and the contractor may ask questions, request clarification, or ask for additional data. All questions from the department or contractor shall be directed to the DRB; cross examination will not be allowed. In difficult or complex cases, additional presentations may be necessary in order to facilitate full

consideration and understanding of all the evidence presented by both the department and the contractor. Both the department and the contractor shall be provided adequate opportunity to present their evidence, documentation, and testimony regarding all issues before the DRB.

Unless otherwise agreed by the department and the contractor, presentations will relate to issues of entitlement only. When the department and the contractor agree that the DRB will review or give guidance on issues of quantum as well as entitlement, both the department and the contractor will complete their presentations on entitlement before quantum is presented.

Normally, a formal transcript of the presentations will not be prepared. When requested by either the department or the contractor, the DRB may allow recordation and transcription by a court reporter with the cost to be allocated as agreed by the department and the contractor. Such transcript, when prepared, shall not constitute the official record of the DRB Review. The record prepared by the DRB shall be the official record of the DRB Review. The DRB may provide for audio or video recordings of the presentations for the use of the DRB only.

The department and the contractor may have their attorneys or other representatives in attendance at the presentations to counsel and advise them. When agreed by the department and the contractor, the representatives will be allowed to make brief opening and closing remarks to the DRB, but are not allowed to present project specific details. No other participation by attorneys at the presentations will be permitted except by mutual agreement of the department and the contractor.

If either the department or the contractor fails to appear before the DRB on the date scheduled for the presentations, without justifiable cause, the party that was absent will be liable for any and all additional costs attributable to the cancellation of the hearing.

105.13.6.4.5 Deliberations

After the presentation is concluded, the DRB will confer to formulate its findings and recommendations. All DRB deliberations shall be conducted in private, with all individual views kept strictly confidential from disclosure to others.

105.13.6.4.6 Special Services

If at any time in the DRB process, the DRB believes that assistance from a technical expert or specialist is necessary or would facilitate resolution of the dispute, the DRB may request permission to retain such services. The DRB will provide to the department and contractor a written request detailing the following:

- Services desired
- Benefit of services requested
- Proposed service provider
- Qualifications of proposed service provider; and
- Estimated fees for requested services

The department and contractor must mutually agree to such assistance and approve the proposed service provider.

105.13.6.4.7 Claims by the Subcontractor

If the contractor's claim includes one or more subcontractor claims, the contractor shall ensure that an authorized representative with actual knowledge of the facts underlying the subcontractor claim assists in presenting the subcontractor's claim and answering questions raised by the DRB members or the department's representatives.

105.13.6.4.8 Findings and Recommendations

After all DRB hearings are concluded the DRB will formulate findings and recommendations. The DRB will conduct private and confidential deliberations and attempt to reach a unanimous decision. The DRB will base its findings and recommendations on the terms of the contract documents, established principles of law, statutes and regulations, the facts and circumstances of the claim, and the information provided by the parties.

Within 28 calendar days of the hearings the DRB will issue its final findings and recommendations. Claims resulting in a decision involving \$250,000 or less will be binding on the parties to the extent permitted by Wisconsin law. For claims resulting in a decision involving more than \$250,000, if accepted by the parties, the department will process the DRB decision for approval and will promptly process any required contract changes.

If the three-member DRB is unable to reach unanimity in its findings and recommendations, the DRB will so advise the department and the contractor in the report of the DRB. A dissenting member may, at his/her discretion, prepare a minority report to be included with the DRB report.

105.13.6.4.9 Further Action on Decisions Exceeding \$250,000

Each party will have 45 calendar days from receipt of a final decision of the DRB exceeding \$250,000 to accept or reject, in writing, the decision. If either party fails to accept or reject, in writing, that final decision of the DRB within 45 calendar days of receipt of such decision, the DRB will notify the parties that non-response is considered to be acceptance of that decision and further administrative or judicial review will be barred. Provide notice of acceptance or rejection of the final decision to the DRB in a manner and form prescribed by the DRB. The DRB will reject any notice on a final decision not filed by either party in a timely manner. This 45-day appeal period may be extended if agreed to in writing prior to the 45-day expiration period.

105.13.6.4.10 Advisory Dispute Review Board

As an alternative to the standard DRB process, the department may elect to use the DRB in an advisory role to expedite the resolution of a dispute or claim. The DRB may review and hear disputes or claim issues during a regularly scheduled site visit. The DRB will offer its advice either during or promptly after the site visit.

105.13.7 Payment for DRB

DRB members shall be compensated as prescribed in the Agreement.

The department and the contractor shall bear the costs and expenses of the DRB equally. Each DRB member shall be compensated and reimbursed expenses as prescribed in the Agreement executed by the department, contractor, and DRB member.

If the DRB desires special services such as legal, technical, or other expert assistance or testimony, or other consultation, accounting, data research, and the like, both the department and the contractor must agree to the special services. When both parties agree to special services, the procedures described in standard spec 105.13.6.4.6 Special Services of this document will be followed.

The department will provide, at no cost to the contractor, administrative services such as coordination of the DRB and state owned conference facilities. If other facilities and/or amenities are desired by both parties, these facility and amenity expenses shall be shared equally by both parties.

The following payment procedures will be used:

The DRB members shall submit invoices to the regional construction oversight engineer for review.

After the regional construction oversight engineer has reviewed and approved the invoices, the invoices will be forwarded to the project manager for review and approval.

After the project manager has reviewed and approved the invoices, the invoices will be forwarded to the contractor for review and approval.

If the contractor approves the invoices, the contractor shall make payment of all approved invoices.

The contractor shall provide the project manager documentation verifying payment.

The department will then execute a change order to pay the contractor one-half of the contractor paid invoice.

There will be no markups applied to expenses connected with the DRB, either by the DRB members or by the contractor when requesting payment of the department's share of DRB expenses. Regardless of the DRB recommendation, neither the department nor the contractor shall be entitled to reimbursement of DRB costs from the other party.

Department's payment to contractor for accepted work will be made as follows:

Pay Item Dispute Review Board

Pay Unit Dollar

These procedures and the Agreement contain all of the provisions for compensation and expenses of the DRB.

5. Insurance.

5.1. Bidding Instructions for Insurance.

The department will implement, an Owner Controlled Insurance Program (OCIP) for this contract as described in the:

Owner Controlled Insurance Program Article
USH 41 Corridor Project OCIP Insurance Manual
USH 41 Corridor Project Safety Manual
USH 41 Corridor Project Claims Manual

Do not include in your bid the “cost of OCIP coverage’s” and as specified in section 107.26(1)(a)9 of the OCIP article. The “costs of OCIP coverage’s” are described in the USH 41 Corridor Project OCIP Insurance Manual.

The USH 41 Corridor Project OCIP Insurance Manual and the Safety Manual contain minimum safety requirements that meet or exceed those required by law, and they include special requirements for the following programs:

Substance Abuse Program
Return to Work Program

Enroll and maintain enrollment in the OCIP. Enroll in the OCIP within five days of executing the contract.

Obtain and maintain insurance coverage’s in addition to the OCIP as specified in section 107.26(1)(a)8 of the OCIP article.

Ensure that subcontractors, both those enrolled in and excluded from the OCIP, obtain and maintain insurance coverage’s in addition to the OCIP as specified in section 107.26(1)(a) 8 of the OCIP article.

5.2. Owner Controlled Insurance Program.

Standard spec 107.26, “Standard Insurance Requirements” is deleted in its entirety and the following standard spec 107.26 is substituted thereof:

107.26 Standard Insurance Requirements
107.26(1)(a) Owner Controlled Insurance Program

- 1. Overview.** The State of Wisconsin, Department of Transportation (“the WisDOT”) has arranged with Aon Risk Services Central, Inc., (the “OCIP administrator”) for this Project to be insured under its Owner Controlled Insurance Program (“OCIP”). The OCIP is more fully described in the USH 41 North-South Corridor manual for the Owner Controlled Insurance Program (the “Insurance Manual”) and the Safety

and Health Plan Manual that are incorporated in this Special Provision and the Contract by this reference. Parties performing labor or services at the Project are eligible to enroll in the OCIP unless the party is an excluded party (as defined below). The OCIP will provide to enrolled parties(as defined below) Workers' Compensation and Employer's Liability insurance, Commercial General Liability insurance, and excess liability insurance as summarily described below in connection with the performance of the Work ("OCIP coverage's").

- 2. Enrolled Parties and Their Insurance Obligations.** OCIP coverage applies only to Enrolled Parties. Enrolled Parties include the WisDOT and its employees, eligible Contractors and Subcontractors who enroll in the OCIP, and such other persons or entities that the WisDOT, in its sole discretion, may designate (each such party who is insured under the OCIP is collectively referred to as an " Enrolled Party"). Enrolled Parties shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in 107.26(1)(a) 8 below.
- 3. Excluded Parties and Their Insurance Obligations.** OCIP coverage's do not apply to the following "Excluded Parties":
 - a. Hazardous materials remediation, removal and/or transport companies;
 - b. Vendors, suppliers, fabricators, material dealers, truckers, haulers, drivers and others who merely transport, pickup, deliver, or carry materials, personnel, parts or equipment or any other items or persons to or from the Project;
 - c. Contractors and each of their respective Subcontractors who do not perform any actual labor on the Project site;
 - d. Any party or entity not specifically identified in this special provision or excluded by the WisDOT as permitted by law, even if otherwise eligible.Excluded Parties and parties no longer enrolled or covered by the OCIP shall obtain and maintain, and shall require each of its Subcontractors to obtain and maintain, the insurance coverage specified in standard spec 107.26(1)(a) 8 below and in the Insurance Manual. Excluded Parties shall comply with all of the safety requirements pursuant to standard spec107.26(1)(a) 16.
- 4. OCIP Insurance Policies Establish OCIP coverage's.** The OCIP coverage's and exclusions summarized in this special provision and the other contract documents are set forth in full in their respective insurance policy forms. The summary descriptions of the OCIP coverage's in this special provision or the Insurance Manual are not intended to be complete or to alter or amend any provision of the actual OCIP coverage's. In the event any provision of this special provision, the Insurance Manual, the contract documents, or the summary below conflicts with the OCIP insurance policies, the provisions of the actual OCIP insurance policies shall govern.
- 5. Summary of OCIP Coverage's.** OCIP coverage's will apply only to those operations of each Enrolled Party performed at the Project site, as defined in the OCIP insurance policies, in connection with the Work and only to Enrolled Parties that are eligible for the OCIP. OCIP coverage's will not apply to Excluded Parties,

even if erroneously enrolled in the OCIP. An Enrolled Party's operations away from the Project site, including product manufacturing, assembling, or otherwise, will only be insured if such "off-site" operations are identified, endorsed onto the OCIP policies, and are dedicated solely to the Project. Contractor may request such "off-site" operations to be insured in writing to WisDOT; however, OCIP coverage's will not insure "off-site" operations until the OCIP policies have been endorsed to insure such "off-site" location. The decision to insure "off-site" operations shall be determined by WisDOT and the OCIP insurer.

The OCIP coverage's are primary insurance for all on-site operations of eligible and Enrolled Parties. The OCIP will provide only the following insurance to eligible and Enrolled Parties:

Summary Only

- a. Workers' Compensation insurance - Statutory Limit including Jones Act and USL&H coverage, as applicable.
 - b. Employer's Liability insurance
 - i. Bodily Injury by Accident, each accident \$1,000,000
 - ii. Bodily Injury by Disease, each employee \$1,000,000
 - iii. Bodily Injury by Disease, policy limits \$1,000,000
 - c. Commercial General Liability (ISO Occurrence Form – Limits Shared By All Insureds)
 - i. Each Occurrence Limit \$2,000,000 (Annual Limit)
 - ii. General Aggregate Limit for all Enrolled Parties \$4,000,000 (Annual Limit)
 - iii. 10 yr. Products and Completed Operations Extension
 - iv. Products and Completed Operations Aggregate for all Enrolled Parties \$4,000,000 (Single Limit Applies to Entire Products and Completed Operations Extension)
 - d. The OCIP Commercial General Liability policy will not provide coverage for any claim that could be covered under a property policy or Builder's Risk policy.
 - e. Excess Liability insurance (over Employer's Liability and General Liability – Limits Shared By All Insureds)
 - Each Occurrence Limit \$150,000,000
 - Aggregate \$150,000,000 (Annual Limit)
 - \$150,000,000 Products and Completed Operations Aggregate Limit (Single Limit Applies to Entire Products and Completed Operations Extension).
- 6. The WisDOT's Insurance Obligations.** The WisDOT will pay the costs of premiums for the OCIP coverage's. The WisDOT will receive or pay, as the case may be, all adjustments to such costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise. Each Contractor and each of its Subcontractors hereby assign to the WisDOT the right to receive all such adjustments. The WisDOT assumes no obligation to provide insurance other than that specified in this special provision and the OCIP insurance policies. The WisDOT's furnishing of OCIP coverage's will in no way relieve or limit, or be construed to relieve or limit, Contractor or any of its Subcontractors of

any responsibility, liability, or obligation imposed by the contract documents, the OCIP insurance policies, or by law, including without limitation any indemnification obligations which Contractor or any of its Subcontractors has to the WisDOT there under. The WisDOT reserves the right at its option, without obligation to do so, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the contract documents.

7. Contractor's OCIP Obligations. Contractor shall:

- a. Incorporate the terms of this special provision in all subcontract agreements.
- b. Enroll in the OCIP within five (5) business days of execution of the contract and maintain enrollment in the OCIP, and assure that Contractor's eligible Subcontractors enroll in the OCIP and maintain enrollment in the OCIP within five (5) business days of subcontracting and prior to the commencement of their Work at the Project site.
- c. Comply with all of the administrative, safety, insurance, and other requirements outlined in this special provision, the Insurance Manual, the OCIP insurance policies, the Safety and Health Plan Manual, or elsewhere in the contract documents.
- d. Provide each of its Subcontractors with a copy of the Insurance Manual and ensure Subcontractor compliance with the provisions of the OCIP insurance policies, the Insurance Manual, this special provision, and the contract documents. The failure of (a) the WisDOT to include the Insurance Manual in the bid documents or (b) Contractor to provide each of its eligible Subcontractors with a copy of same, shall not relieve Contractor or any of its Subcontractors from any of the obligations contained therein.
- e. Acknowledge, and require all of its Subcontractors to acknowledge in writing, that the WisDOT and the OCIP administrator are not agents, partners or guarantors of the insurance companies providing coverage under the OCIP (each such insurer, an "OCIP insurer") and that the WisDOT is not responsible for any claims or disputes between or among Contractor, its Subcontractors, and any OCIP insurer(s). Any type of insurance coverage or limits of liability in addition to the OCIP coverage's that Contractor or any Subcontractor requires for its or their own protection, or that is required by applicable laws or regulations, shall be Contractor's or its Subcontractor's sole responsibility and expense and shall not be billed to the WisDOT.
- f. Cooperate fully with the OCIP administrator and the OCIP insurers, as applicable, in its or their administration of the OCIP.
- g. Provide, within five (5) business days of the WisDOT's or the OCIP administrator's request, all documents or information as requested of Contractor or its Subcontractors. Such information may include but not be limited to, payroll records, certified copies of insurance coverage's, declaration pages of coverage's, certificates of insurance, underwriting data, prior loss history information, safety records or history, OSHA citations, or such other data or information as the WisDOT, the OCIP administrator, or OCIP insurers may request in the administration of the OCIP, or as required by the Insurance Manual.

- h. Pay to the WisDOT's designee within five (5) days of written notification, a sum of up to \$ 10,000 of each claim, including court costs, attorneys fees and costs of defense for property damage to the extent losses are insured under the OCIP Commercial General Liability policy for those losses that are attributable to Contractor's Work, acts or omissions, or the Work, acts or omissions of any of its Subcontractors, or any other entity or party for whom Contractor may be responsible ("contractor General Liability obligation"). The contractor General Liability obligation will not be insured by the OCIP Coverage's.

8. Additional Insurance Required From Enrolled Parties and Excluded Parties.

Contractor shall obtain and maintain, and shall require each of its Subcontractors of every tier to obtain and maintain, the insurance coverage specified in this standard spec 107.26(1)(a) 8 in a form and from insurance companies reasonably acceptable to the WisDOT. The insurance limits may be provided through a combination of primary and excess policies, including the umbrella form of policy. The insurance required by this standard spec 107.26(1)(a) 8 shall conform to the WisDOT's requirements outlined in the Insurance Manual and be written by companies authorized to do business in the State of Wisconsin, and Illinois if applicable, with an A.M. Best rating of A- or better. Contractor shall provide certificates of insurance coverage to the WisDOT as required below and by the Insurance Manual. As to eligible and Enrolled Parties, the Workers' Compensation, Employer's Liability, and Commercial General Liability insurance required by this section shall only be for off-site activities or operations not insured under the OCIP coverage's. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.

TYPE OF INSURANCE MINIMUM LIMITS REQUIRED

1. Commercial General Liability insurance shall be endorsed to include blanket contractual liability coverage.
 - a. \$2 Million Combined single limits per occurrence with an annual aggregate limit of not less than \$4 Million.
 - b. The OCIP Coverage's shall exclude blasting or explosion operations. If blasting or explosion operations are used in connection with the Work, Commercial General Liability insurance shall not contain an exclusion for blasting or explosion and shall be provided in limits established by the WisDOT at the time such blasting or explosion methods are elected. Such coverage shall apply to operations whether the operations occur on the Project site or away from the Project site.
 - c. Commercial General Liability insurance shall be maintained in force for two (2) years following completion and the WisDOT's acceptance of the work.
 - d. Wisconsin Department of Transportation, their respective officers, agents and employees, and any additional entities as the WisDOT may request as additional insureds must be named as an Additional Insured which shall include: i) liability arising out of the Work performed by the named insured; ii) liability arising out of the supervision of the Work performed by or operations of the named insured; and iii) liability of the acts or omissions of

- the Additional Insureds relating to Work performed by the named insured for the Project, except for sole negligence of the Additional Insureds iv) will state that coverage is afforded on a primary and non-contributory basis.
2. Workers' Compensation and Employer's Liability insurance.
 - a. Workers' Compensation limits: statutory limits
 - b. Employer's Liability limits:
 - i. Bodily injury by accident: \$100,000 each accident
 - ii. Bodily injury by disease: \$500,000 policy limit
 - iii. Bodily injury by disease: \$100,000 each employee
 3. Commercial automobile liability insurance as specified by Insurance Services Office (ISO), form CA 00 01, symbol 1 (any auto) with the following limits and endorsements:
 - a. No Trucking or Hauling: \$1,000,000 Each Accident
 - b. Trucking or Hauling (Non Hazardous Materials): \$2,000,000 Each Accident
 - c. Trucking or Hauling Hazardous Materials: \$5,000,000 Each Accident with an MCS 90 Endorsement and ISO Endorsement CA 99 48.
 4. For any work over water, whether deemed navigatable or otherwise, Contractors Pollution Liability insurance with \$2,000,000 per occurrence and \$2,000,000 aggregate policy limits.
 5. Aviation and/or Watercraft Liability insurance, as appropriate, including hull and protection and indemnity for watercraft, or other insurance, in form and with limits of liability and from an insuring entity reasonably satisfactory to the WisDOT.

Contractor's failure to procure or maintain the insurance required by this 107.26(1)(a)8 and to assure all its Subcontractors of every tier maintain the required insurance during the entire term of the contract shall constitute a material breach of this contract under which the WisDOT may immediately suspend or terminate this contract or, at its discretion, procure or renew such insurance to protect the WisDOT's interests and pay any and all premiums in connection therewith, and withhold or recover all monies so paid from the Contractor.

Contractor shall provide the WisDOT with certificates of insurance as evidence that required coverage's for insurance detailed in this section are in force. The bidder shall provide certificates of insurance in their pre-qualification statement as specified in 102.1.

Contractor shall notify the WisDOT at least 60 calendar days before a cancellation or material change in coverage and only obtain coverage from insurance companies licensed to do business in the state that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The WisDOT will make no additional or special payment for providing insurance.

The above insurance requirements shall apply with equal force whether the Contractor or a Subcontractor, or anyone directly or indirectly employed by either, performs the work under the Project.

- 9. Contractor Representations and Warranties to the WisDOT.** Contractor represents and warrants to the WisDOT or behalf of itself and its Subcontractors:
- a. That all information it submits to the WisDOT or the OCIP administrator shall be accurate and complete.
 - b. That Contractor, on behalf of itself and its Subcontractors, has had the opportunity to read and analyze copies of the OCIP binders and specimen policies that are on file in the WisDOT's office. Any reference or summary in the contract, this special provision, the Insurance Manual, or elsewhere in any other contract document as to amount, nature, type or extent of OCIP coverage's and/or potential applicability to any potential claim or loss is for reference only. Contractor and its Subcontractors have not relied upon said reference but solely upon their own independent review and analysis of the OCIP coverage's in formulating any understanding and/or belief as to amount, nature, type or extent of any OCIP coverage's and/or its potential applicability to any potential claim or loss.
 - c. That the costs of OCIP coverage's were not included in Contractor's bid or proposal for the Work, the contract price, and will not be included in any change order, change modification, or any request for payment for the Work or extra work. The "costs of OCIP coverage's" is defined as the dollar amount of premiums, costs and fees the Contractor and its Subcontractors would have paid its insurance carrier to insure the operations and exposures which are being insured under the OCIP.
 - d. That Contractor acknowledges that the WisDOT will not pay or compensate Contractor or any Subcontractor, in any manner, for costs of OCIP coverage's or for "insurance costs" except as specifically required to be maintained by Contractor by the terms of this special provision.
- 10. Audits.** Contractor agrees that the WisDOT, the OCIP administrator, and/or any OCIP insurer may audit Contractor's or any of its Subcontractor's Project payroll records, books and records, insurance coverage's, insurance cost information, or any other information that Contractor provides to the WisDOT, the OCIP administrator, or the OCIP insurers to confirm their accuracy and to assure that costs of OCIP coverage's are not included in any payment for the work.
- 11. The WisDOT's Election to Modify or Discontinue OCIP.** The WisDOT may, for any reason, modify the OCIP coverage's, discontinue the OCIP, or request that Contractor or any of its Subcontractors withdraw from the OCIP upon thirty (30) days written notice. Upon such notice Contractor and/or one or more of its Subcontractors, as specified by the WisDOT in such notice, shall obtain and thereafter maintain at the WisDOT's expense, Contractor Maintained Coverages (or a portion thereof as specified by the WisDOT) of the OCIP coverage's. The form,

content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the WisDOT's approval.

- 12. Withhold of Payments.** The WisDOT may withhold from any payment owing to Contractor the costs of OCIP coverage's if included in a request for payment. In the event the WisDOT audit of Contractor's records and information as permitted in the Contract, this special provision, or other contract documents reveals a discrepancy in the insurance, payroll, safety, or any other information required by the contract documents to be provided by Contractor to the WisDOT, or to the OCIP administrator, or reveals the inclusion of costs of OCIP coverage's in any payment for the work, the WisDOT will have the right to full deduction from the Contract Price of all such costs of OCIP coverage's and all audit costs. Audit costs will include but not be limited to the fees of the OCIP administrator, and the fees of attorneys and accountants conducting the audit and review. If the Contractor or its Subcontractors fail to timely comply with the provisions of this special provision or the requirements of the Insurance Manual, the WisDOT may withhold any payments due Contractor and its Subcontractors until such time as they have performed the requirements of this special provision. Such withholding by the WisDOT will not be deemed to be a default hereunder.
- 13. Waiver of Subrogation.** Where permitted by law, Contractor hereby waives all rights of recovery under subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against the WisDOT, the State of Wisconsin and any of its Agencies or Officer's, Agents or employees including without limitation, the OCIP administrator, its or their officers, agents, shareholders or employees of each, if any, and any other Contractor or Subcontractor performing work or rendering services on behalf of the WisDOT in connection with the planning, development and construction of the Project. Where permitted by law, Contractor shall also require that all Contractor maintained insurance coverage related to the work include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against Contractor together with the same parties referenced immediately above in this section. Contractor shall require similar written express waivers and insurance clauses from each of its Subcontractors. A waiver of subrogation shall be effective as to any individual or entity even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.
- 14. Duty of Care.** Nothing contained in this special provision or the Insurance Manual shall relieve the Contractor or any of its Subcontractors of their respective obligations to exercise due care in the performance of their duties in connection with the work and to complete the work in strict compliance with the contract documents.

15. Conflicts. In the event of a conflict, the provisions of this special provision shall govern, then the provisions of the contract and its other related contract documents, then the provisions of the Insurance Manual.

16. Safety. Contractor shall be solely responsible for safety on the Project and safety relating to the Work. Contractor shall establish a safety program that, at a minimum, complies with all local, state and federal safety standards, and any safety standards established by the WisDOT for the Project, including the Project Safety and Health Plan Manual.

6. Environmental.

6.1. Environmental Protection.

Supplement standard spec 107.18 follows:

Wetlands

The contractor shall not disturb nor store materials or topsoil within the nearby wetlands as shown on the erosion control sheets unless areas are designated to be filled or impacted as permitted in the project's U.S. Army Corps of Engineers Section 404 Permit. The work area shall be separated from the wetlands by silt fence, as shown on the plans, to avoid siltation and inadvertent fill into the wetland areas.

Phragmites

Phragmites, an invasive species plant, exists within the USH 41 corridor. All soils outside of the median areas along USH 41 containing plant or root fragments that will be disturbed as part of the work within the contract shall be incorporated into the salvaged topsoil within the immediate area of the work. All soils containing plant or root fragments that will be excavated as part of the work within the USH 41 median areas, areas as shown on the plans, or from areas designated by the engineer shall be deposited at a waste site designated on the project. Excavation and waste of Phragmites infested soil from the median areas, other areas shown on the plans, and any other areas that may be approved by the engineer that is deposited at the designated waste site will be paid for under the Excavation of Phragmites Soil item. All waste sites are subject to review and approval by the department and shall be suitable for the waste of material containing Phragmites. Waste material shall be placed in upland locations in the general area where the plant currently exists. All other areas where Phragmites soil is left on site will be paid for as Salvaged Topsoil.

For all equipment that comes into contact with Phragmites infested areas, follow the guidelines established under the Environmental Protection, Aquatic Exotic Species Control section of this special provision for inspection and cleaning of equipment prior to leaving the project site. Additional information on this plant can be found at the following website: www.dnr.wi.gov/invasives/plants.asp.

Dewatering

If dewatering is required, treat the water to remove suspended solids before allowing it to enter any waterway or wetland. Provide a sedimentation basin with sufficient capacity and size to provide an efficient means to filter the water from the dewatering operation before it is discharged back into the waterway or wetland as provided in the standard specifications and these special provisions. As part of the Erosion Control Implementation Plan (ECIP) submittal, supply all pertinent information and calculations used to determine the best management practice for dewatering at each location it is required.

Refer to the dewatering guidelines of WisDNR Storm Water Management Technical Standards, Code #1061, "Dewatering". This document can be found at the WisDNR website: <http://dnr.wi.gov/runoff/stormwater/techstds.htm>

The cost of all work and materials associated with water treatment and/or dewatering is incidental to the bid item "Sedimentation Basin".

6.2. Environmental Protection, Aquatic Exotic Species Control.

Exotic invasive organisms such as VHS, zebra mussels, purple loosestrife, and Eurasian water milfoil are becoming more prolific in Wisconsin and pose adverse effects to waters of the state. Wisconsin State Statutes 30.07, "Transportation of Aquatic Plants and Animals; Placement of Objects in Navigable Waters", details the state law that requires the removal of aquatic plants and zebra mussels each time equipment is put into state waters.

At construction sites that involve navigable water or wetlands, use the follow cleaning procedures to minimize the chance of exotic invasive species infestation. Use these procedures for all equipment that comes in contact with waters of the state and/or infested water or potentially infested water in other states.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources http://dnr.wi.gov/fish/documents/disinfection_protocols.pdf) for disinfection:

- Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species;

- Drain all water from boats, trailers, bilges, live wells, coolers, bait buckets, engine compartments, and any other area where water may be trapped;

- Inspect boat hulls, propellers, trailers and other surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or

roots), and dispose of removed mussels and plant materials in a garbage can prior to leaving the area or invested waters; and
Disinfect your boat, equipment and gear by either:
Washing with ~212° F water (steam clean), or
Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
Disinfecting with either 200 ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20- to 30-minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfect should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.
107-055 (20110615)

6.3. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Kurt Peters at (920) 492-2213.
107-054 (20080901)

6.4. Construction Over or Adjacent to Navigable Waters.

Supplement standard spec 107.19 with the following:

Dutchman's Creek, the drainage ditch along the east side of Pilgrim Way between Ridge Road and Cormier Road and the drainage ditch along the east side of USH 41 between Cormier Road and the pipe outlet located at approximately Station 937+94 NB RT are classified as navigable waterways.

6.5. Endangered Resources.

There are State Threatened wood turtle within the project area. Provide 10 day business notice to the department (Mike Helmrick, WisDOT, (920) 492-7738) prior to start of any construction activity. The department will field review and remove any turtle, if found within the project area. The department will monitor and remove turtle if necessary throughout the construction period.

The State Threatened Wood Turtle (*Glyptemys insculpta*) is a known inhabitant to the waterways and riparian corridors throughout the USH 41 segments. Wood turtles may be present at the site, or near the site, therefore; the project construction must protect the perimeter of the area to be disturbed with properly trenched-in silt fence prior to March 15 to discourage the turtles from entering the area. The silt fence installation must meet both the department's specifications and the approval of the Department of Natural Resources.

If the project construction area cannot be silt fenced prior to March 15, the trenched-in silt fence must be installed prior to construction activities and the area behind the silt fence must be surveyed to ensure no turtles have ventured into the construction site.

Contact Mike Helmrick for additional measures if any Wood Turtles are in the construction limits.

Any turtles that are found in the project site, during construction season, must be removed prior to any site disturbance and shall continue throughout the construction period to ensure no turtles are harmed during construction.

6.6. Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found.

Structure B-05-082 and B-05-110

Jeffrey S. Carlson, License Number AII-3420, inspected Structures B-05-082 and B-05-110 for asbestos on June 8, 2007. No regulated Asbestos Containing Material (RACM) was found on these structures.

Structures B-05-083 and B-05-132

Jeffrey S. Carlson, License Number AII-3420, inspected Structures B-05-083 and B-05-132 for asbestos on May 17, 2007. No regulated Asbestos Containing Material (RACM) was found on these structures.

Structures B-05-115 and B-05-124

Jeffrey S. Carlson, License Number AII-3420, inspected Structures B-05-115 and B-05-124 for asbestos on May 3, 2007. No regulated Asbestos Containing Material (RACM) was found on these structures.

Structure B-05-116

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-116 for asbestos on October 4, 2007. No regulated Asbestos Containing Material (RACM) was found on this structure.

A copy of the inspection reports is available from: Kurt Peters at (920) 492-2213.

In accordance to NR447 and DHS159, ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days prior to beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form to Michael Helmrick, WisDOT – NE Region Office, 944 Vanderperren Way, Green Bay, WI 53404 and DOT BTS-ESS attn: Hazardous Materials Specialist PO Box 7965, Madison, WI. 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113 :

For Structure B-05-082

Site Name: Structure B-05-082, USH 41 Southbound over Lombardi Avenue
Site Address: Lat 44°30'34.23"N, Long 88°04'58.37"W, Section 33, Town 24 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 40 years old. This structure was constructed in 1973.
Area: 7,349 SF of deck

For Structure B-05-083

Site Name: Structure B-05-083, USH 41 Northbound over Lombardi Avenue
Site Address: Lat 44°30'32.47"N, Long 88°04'56.52"W, Section 33, Town 24 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 40 years old. This structure was constructed in 1973.
Area: 7,349 SF of deck

For Structure B-05-110

Site Name: Structure B-05-110, USH 41 over Dutchman's Creek
Site Address: Lat 44°28'51.00"N, Long 88°04'49.00"W, Section 9, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 39 years old. This structure was constructed in 1974.
Area: 10,206 SF of deck

For Structure B-05-115

Site Name: Structure B-05-115, USH 41 Southbound over Cormier Road
Site Address: Lat 44°29'43.58"N, Long 88°04'54.27"W, Section 12, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 40 years old. This structure was constructed in 1973.
Area: 7,996 SF of deck

For Structure B-05-116

Site Name: Structure B-05-116, USH 41 Southbound over Morris Avenue
Site Address: Lat 44°30'12.80"N, Long 88°04'56.86"W, Section 13, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 39 years. This structure was constructed in 1973
Area: 8,085 SF of deck

For Structure B-05-124

Site Name: Structure B-05-124, USH 41 Northbound over Cormier Road
Site Address: Lat 44°29'41.37"N, Long 88°04'51.98"W, Section 12, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 39 years. This structure was constructed in 1973
Area: 8,420 SF of deck

For Structure B-05-132

Site Name: Structure B-05-132, USH 41 Northbound over Morris Avenue
Site Address: Lat 44°30'10.66"N, Long 88°04'54.57"W, Section 13, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 39 years. This structure was constructed in 1973
Area: 7,973 SF of deck

Insert the following paragraph in Section 6.g.:

If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Technical Services at (608) 266-1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

107-125 (20120615)

6.7. Notice to Contractor - Abatement of Asbestos Containing Material Structure B-05-107, B-05-109, B-05-114, B-05-135, B-05-136, B-05-137, B-05-138, B-05-139, and B-05-140.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-107 and B-05-135 for asbestos on May 4, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

On B-05-107, USH 41 Southbound over Parkview Road, 300 linear feet of a gray caulk/putty material is located between the parapet wall joints containing 4% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

On B-05-135, USH 41 Southbound over Oneida Street, 300 linear feet of a gray caulk/putty material is located between the parapet wall joints containing 4% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

James Gondek, License Number AII-108099, inspected Structure B-05-109 for asbestos on February 21, 2005. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

28.4 linear feet of gray/silver caulk located at the parapet expansion joints contain 3% non-friable asbestos.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-114 and B-05-136 for asbestos on May 3, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

On B-05-114, USH 41 Northbound over Parkview Road, 210 linear feet of a gray caulk/putty material is located between the parapet wall joints containing 4% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

On B-05-136, USH 41 Northbound over Oneida Street, 210 linear feet of a gray caulk/putty material is located between the parapet wall joints containing 6% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

Jeffrey S. Carlson, License Number AII-3420, inspected Structure B-05-137, B-05-138, B-05-139 and B-05-140 for asbestos on May 18, 2007. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

On B-05-137, USH 41 Southbound over STH 172 Eastbound, 210 linear feet of a gray caulk material is located between the parapet wall joints containing 3% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

On B-05-138, USH 41 Northbound over STH 172 Eastbound, 96 linear feet of a gray caulk material is located between the parapet wall joints containing 4% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

On B-05-139, USH 41 Southbound over STH 172 Westbound, 96 linear feet of a gray caulk material is located between the parapet wall joints containing 3% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

On B-05-140, USH 41 Northbound over STH 172 Westbound, 96 linear feet of a gray caulk material is located between the parapet wall joints containing 4% chrysotile asbestos. The material is located on the east and west sides of the structure and is classified as a Category I non-friable asbestos containing material.

Others will complete abatement of RACM under direction of the department's environmental consultant. The environmental consultant is:

Dan Haak,
TRC Environmental Corporation
708 Heartland Trail, Suite 3000
Madison, Wisconsin 53717
Phone: (608) 826-3628

Provide traffic control, as required, for completion of abatement activities by others.

Provide the engineer and environmental consultant with a written notice at least 28 calendar days prior to the scheduled date to beginning any construction or demolition of the bridge. Provide environmental consultant at least 7-calendar day notice of date when traffic control is in place and structure is available to complete the asbestos abatement. Allow up to a 3-business day window for others to complete abatement. Asbestos abatement will be completed in one business day.

Coordinate with the engineer and environmental consultant the abatement of the RACM on this structure by others prior to beginning any construction or demolition. A completed Notification of Demolition and/or Renovation (DNR Form 4500-113) for the asbestos abatement will be submitted to the DNR by others. A copy of the inspection report is available from Kurt Peters at (920) 492-2213. In accordance to NR447, ensure that DNR receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113) of any changes to structure demolition schedule from that which is provided under the initial notification by others. A copy of the notification form completed by others will be available from Adam Clayton, WisDOT Northeast Region, 944 Vanderperren Way, P.O. Box 28080, Green Bay, WI, 54324-0080, (920) 492-7374. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113:

For Structure B-05-107

Site Name: Structure B-05-107, USH 41 Southbound over Parkview Road
Site Address: Lat 44°27'56.27"N, Long 88°04'52.56"W, Section 25, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 10,557 SF of deck

For Structure B-05-109

Site Name: Structure B-05-109, Hansen Road over USH 41
Site Address: Lat 44°28'40.72"N, Long 88°04'49.42"W, Section 16, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 17,096 SF of deck

For Structure B-05-114

Site Name: Structure B-05-114, USH 41 Northbound over Parkview Road
Site Address: Lat 44°27'53.97"N, Long 88°04'51.89"W, Section 25, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 9,393 SF of deck

For Structure B-05-135

Site Name: Structure B-05-135, USH 41 Southbound over Oneida Street
Site Address: Lat 44°28'10.81"N, Long 88°04'46.46"W, Section 16, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 8,089 SF of deck

For Structure B-05-136

Site Name: Structure B-05-136, USH 41 Northbound over Oneida Street
Site Address: Lat 44°28'09.76"N, Long 88°04'44.81"W, Section 16, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 8,199 SF of deck

For Structure B-05-137

Site Name: Structure B-05-137, USH 41 Southbound over STH 172 Eastbound
Site Address: Lat 44°29'02.09"N, Long 88°04'50.44"W, Section 9, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 9,162 SF of deck

For Structure B-05-138

Site Name: Structure B-05-138, USH 41 Northbound over STH 172 Eastbound
Site Address: Lat 44°28'59.43"N, Long 88°04'48.24"W, Section 9, Town 23 North, Range 20 East, Village of Ashwaubenon
Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304
Contact: Kurt Peters
Phone: (920) 492-2213
Age: 38 years. This structure was constructed in 1974
Area: 11,732 SF of deck

For Structure B-05-139

Site Name: Structure B-05-139, USH 41 Southbound over STH 172 Westbound

Site Address: Lat 44°29'07.59"N, Long 88°04'51.09"W, Section 9, Town 23 North, Range 20 East, Village of Ashwaubenon

Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304

Contact: Kurt Peters

Phone: (920) 492-2213

Age: 38 years. This structure was constructed in 1974

Area: 12,493 SF of deck

For Structure B-05-140

Site Name: Structure B-05-140, USH 41 Northbound over STH 172 Westbound

Site Address: Lat 44°29'04.33"N, Long 88°04'48.83"W, Section 9, Town 23 North, Range 20 East, Village of Ashwaubenon

Ownership Information: WisDOT Transportation NE Region, 944 Vanderperren Way, Green Bay, WI 54304

Contact: Kurt Peters

Phone: (920) 492-2213

Age: 38 years. This structure was constructed in 1974

Area: 10,754 SF of deck

Insert the following paragraph in Question 22:

If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Equity and Environmental Services at (608) 266-1476 for an emergency response in accordance to standard spec 107.24 s. Keep material wet until it is abated, or until it is determined to be non-asbestos containing material.

If rails or other items are removed from the structure by others to complete the asbestos abatement, they may be salvaged by others or once the asbestos abatement is completed, left at project site for disposal by contractor. If during the course of the work, the contractor identifies potential RACM not previously identified, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Equity and Environmental Services at (608) 266-1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated, or until it is determined to be non-asbestos containing material.

6.8. Excavation of Phragmites Soil, Item SPV.0035.002.**A Description**

This item includes excavation of soils designated in the plans as containing Phragmites as directed by the engineer, hauling, placing, and shaping excavated material to the designated waste site, backfilling the excavated area, and decontamination of equipment.

B (Vacant)

C Construction

Excavate soils in accordance with the lines and grades shown on the plan, to the limits of topsoil, or as directed by the engineer. Some EBS may be required to remove plant material. Backfill excavated area. Haul excavated material, not classified as salvaged topsoil, to the waste site and place and shape material where designated as shown in the plans or directed by the engineer. Multiple contractors may be accessing the waste site at one time. Coordinate with other contracts to accomplish proper material placement and the desired shape of the waste site shown in the plans.

Access to the designated waste site at the STH 172 interchange will not be allowed from 6:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM Monday through Friday, unless approved by the engineer. Access to the designated waste site from the NW ramp (southbound USH 41 to westbound STH 172) will not be allowed.

Decontaminate equipment per Environmental Protection, Aquatic Exotic Species Control article of these special provisions.

Maintain the tracking pad at the access points of the waste site per the special provisions. Maintain silt fence and erosion control on the site in accordance with applicable sections of the standard specifications as directed by the engineer. Install traffic control as shown on the plans and as directed by the engineer while accessing the site

D Measurement

The department will measure Excavation of Phragmites Soil by the cubic yard acceptably completed. The quantity measured for payment shall equal the actual number of cubic yards of excavated as measured by the engineer.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.002	Excavation of Phragmites Soil	CY

Payment is full compensation for excavating, loading, hauling, wasting, and shaping material, providing and placing backfill material, maintenance of access and hauling routes within the site, and decontamination of equipment.

Any seed, fertilizer, silt fence maintenance, tracking pad maintenance, and traffic control will be paid for under the pertinent items provided in the contract.

7. Traffic and Restrictions to Work.

7.1. Traffic.

Clear Zone Working Restrictions

Do not store materials or equipment within the clear zone of traffic lanes which are not protected by temporary precast barrier. Remove materials from the clear zone prior to opening lane closures. Do not leave any slopes steeper than 3:1 or any drop offs at the edge of the traveled way greater than 2 inches within the clear zone which are not protected by temporary precast barrier prior to opening lane closures.

Do not perform heavy equipment work in the median at any time unless protected by concrete barrier in both directions except as allowed during night work with lane closures.

Do not perform heavy equipment work within 18 feet of the edge of the traveled way unless protected by concrete barrier or a lane closure during the allowed closure periods.

Park equipment a minimum of 30-feet from the edge of the traveled way. Equipment may be parked in the median if it meets the minimum distance requirement from both traveled ways or if it is protected by concrete barrier.

If the contractor is unsure whether an individual work operation will meet the safety requirements for working within the clear zone, review the proposed work operation with the engineer before proceeding with the work.

Expressway/Freeway Traffic Control Meeting

Conduct a traffic control meeting prior to:

1. Initial traffic control set up.
2. Intermediate traffic switches.
3. Reopening of the highway to traffic.

Notify Kevin Lohff at (920) 606-3176 seven business days prior to setting up the meeting.

Freeway Service Team (FST)

As part of a traffic mitigation program called Freeway Service Team (FST), the department has contracted with a private towing vendor to patrol parts of US 41 during peak hours, holidays and special events. To improve safety and minimize delay, contact 911 immediately for breakdowns or incidents in or near the construction work zone. FST will be dispatched directly to the scene to aid the vehicles that need to be removed.

Portable Changeable Message Signs – Message Prior Approval

After coordinating with department construction field staff, notify Kevin Lohff at (920) 606-3176 three business days prior to deploying or changing a message on a PCMS to obtain approval of the proposed message.

Portable Intelligent Transportation System

The department will be supplying and operating an intelligent transportation system during the construction of this project. The ITS system will consist of a portable video surveillance system and portable changeable message signs. These portable units will be parked inside and outside the construction limits to help assist law enforcement and the department with monitoring traffic conditions during the construction activities.

The department will coordinate the placement of these devices with the contractor. The contractor will be required to accommodate the placement of these devices within the project. The general accommodations include an area to park the devices out of the clear zone but still visible to traffic and access to and from the devices. Contact the Northeast Region Traffic Section at (920) 492-7719 for specific details regarding the intelligent transportation system.

Portable Speed Trailers

The State Patrol will be supplying and operating portable speed trailers during the construction of this project. These portable units will be parked inside and outside the construction limits to help assist with law enforcement during the construction activities.

The State Patrol and department will coordinate the placement of these devices with the contractor. The contractor will be required to accommodate the placement of these devices within the project. The general accommodations include an area to park the devices but still visible to traffic and access to and from the devices. Accommodation of these devices and necessary coordination with the State Patrol and department is incidental to other items of work under this contract and no additional compensation will be made to accommodate these devices with the project area. Coordinate with Kevin Lohff at (920) 606-3176, for specific details regarding the portable speed trailers.

Private Driveways

Maintain access to all business driveways and private residence driveways on a minimum of crushed aggregate base course surface at all times except as follows. If a property has multiple entrances, a minimum of one entrance must be maintained at all times. Close driveways for a maximum of 7 calendar days due to roadway concrete paving. Close driveways for a maximum of 7 calendar days for grading and placement of base aggregate and concrete paving for each driveway. Notify each business and/or each residence on the property a minimum of 7 days prior to any driveway closures.

Protection of Bridge Pier Columns

Bridge pier columns are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier so that the bridge pier columns remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier columns before the temporary concrete barrier is removed. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.

Roadside Hazard Protection During Construction

Conduct existing beam guard removal in several phases to allow timely installation of temporary barriers. Bridge pier columns and parapets are to remain protected at all times throughout construction. Removal of existing guardrail shall be done concurrently with the placement of the temporary concrete barrier or temporary barrier left in place so that the bridge pier columns/parapets remain protected at all times. Placement of new beamguard shall be completed to a point to provide protection for the pier columns/parapet before the temporary concrete barrier is removed. Railing connecting to structure parapet should be in place prior to opening the lanes for traffic. Remaining beamguard shall be placed within 24 hours of the temporary concrete barrier being removed.

Rolling Closures

For setting of the trusses and signs for sign structures S-5-12, S-5-96, S-5-159, S-05-160, S-5-162, S-5-163, S-5-168, S-5-226, S-5-227 and S-5-230, USH 41, STH 172, Oneida Street and Oneida Street Interchange ramps may be closed for periods not to exceed 20 minutes. Allow all vehicle backups to clear the project area prior to setting up the next road closure during the above timeframe. The department has contracted with the Wisconsin State Highway Patrol to assist with traffic control operations by setting up rolling roadblocks for these closures. Coordinate with the Traffic Management Engineer, Kevin Lohff at (920) 606-3176, on these road closures and provide 72 hours prior notice to the engineer.

Snowplowing

Brown County and the local municipality will perform snow removal operations for freeway and local roads that are open to through traffic during construction. Provide for snow removal in those areas closed to through traffic as required to facilitate safe construction activities and to provide access to properties within the work area.

Temporary Regulatory Speed Limit Reduction-Lane Closures

A reduction of the posted regulatory speed limit from 65 mph to 55 mph is allowed during approved lane closures and when workers are present and active in close proximity to an open lane. At all other times the posted regulatory speed limit shall be 65 mph. If the following conditions are allowed by project documents a temporary 55 mph regulatory speed zone is also warranted: 1. Lanes narrowed to less than 12 feet and adjacent shoulder width is reduced. 2. Traffic is shifted partly or completely onto a shoulder and/or temporary pavement and shoulder width is reduced. Changing temporary and existing/permanent signs between 65 mph and 55 mph shall be considered incidental to the project.

During approved temporary regulatory speed limit reductions, install regulatory speed limit signs on the inside and outside shoulders of the roadway at the beginning of the reduced regulatory speed zone, after all locations where traffic may enter the highway segment or every ½ mile within the reduced regulatory speed zone. Signs shall be installed at the end of the temporary regulatory speed zone to inform drivers the posted regulatory speed limit reverts back to 65 mph. To minimize possible confusion to the

traveling public and to ensure appropriate speed enforcement, enhanced attention to placement and changing of speed limit signs is necessary.

In coordination with department construction field staff, notify the Northeast Region Traffic Section at (920) 492-5652 (secondary contact number is (920) 492-5641) if temporary traffic control field conditions meet the above criteria. Contact the Northeast Region Traffic Section at least 14-calendar days prior to installation of a temporary 55 mph regulatory speed zone. After notification, Northeast Region Traffic will create a “Temporary Speed Zone Declaration” to meet statutory requirements, allowing enforcement of this temporary regulatory speed limit.

When construction activities impede the location of a post mounted regulatory speed limit sign, mount the regulatory speed limit sign on portable supports that meet the “crashworthy” definition and height criteria in the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

Temporary Intelligent Transportation System

As part of a separate contract, the department has contracted with a private vendor to supply, operate and maintain a temporary intelligent transportation system during the construction of this project. The temporary ITS system will consist of portable video surveillance systems, portable traffic detectors and portable changeable message signs. These portable units will be parked inside and outside the construction limits to help assist law enforcement and the department with monitoring traffic conditions during the construction activities.

The vendor will coordinate the placement of these devices with the contractor. The contractor will be required to accommodate the placement of these devices within the project. The general accommodations include an area to park the devices out of the clear zone but still visible to traffic and access to and from the devices. Contact the Northeast Region Traffic Section at (920) 492-7719 for specific details regarding the temporary intelligent transportation system.

Wisconsin Lane Closure System Advanced Notification

Provide the following minimum advance notification to the engineer for incorporation into the Wisconsin Lane Closure System.

Lane closures (without width, height or weight restriction)	3 business days
Service Ramp closures	3 business days
Extended closure hours	3 business days
System Ramp closures	7 calendar days
Local Street openings/closings	7 calendar days
Lane closures (with width, height or weight restriction)	14 calendar days
Project Start	14 calendar days
Full Freeway closures	14 calendar days
Construction stage changes	14 calendar days
Detours	14 calendar days

Notify the engineer if there are any changes in the schedule, early completions, or cancellations for scheduled work.

Winter Maintenance

During winter months park equipment at a safe distance (a minimum of 30 feet from the edge of the traveled way; equipment may be parked in the median if it meets the minimum 30-foot distance requirement from both traveled ways or if it is protected by concrete barrier) from the active travel lanes to prevent damage to equipment from snow plowing operations. Do not store equipment or materials within the work zone which may interfere with horizontal sight distances along USH 41 or STH 172.

Snow may be plowed from the traveled roadway into the work site by the maintaining authority. The contractor is responsible for any snow removal from the work site that may be required to continue work operations.

The contractor is responsible for plowing any areas which may need to be cleared of snow or ice to accommodate changes in traffic control and to facilitate construction staging during winter months. Brown County or the local maintaining authority will not provide snow plowing operations in areas outside of the active traveled lanes.

Re-install or adjust any traffic control devices that may be damaged, removed, or shifted as part of normal winter maintenance operations. Clean and maintain traffic control devices as necessary or directed as a result of winter maintenance operations.

Anticipated locations of traffic control devices are shown in the plans. Review the work site with the engineer for locations where additional area may be available to maximize lane and shoulder widths over winter months to aid in winter maintenance operations and to maximize snow storage area. Adjust traffic control devices in these areas.

Snow plowing, ice removal including any road salt which may be required, maintenance and cleaning of traffic control devices, and other winter maintenance activities are incidental other items of work under this contract.

USH 41 Traffic

Submit any traffic control change request to the engineer at least 72 hours prior to an actual traffic control change. A request does not constitute approval.

Maintain the following lanes during work on each roadway unless otherwise allowed. Each hour shown in the lane requirement tables is defined as a 60 minute period (example: Hour 7 is the period from 7:00 to 7:59).

Freeway/Expressway Lane Requirements																									
Limits:	Northbound USH 41: Schuering Road (CTH F) to Larsen Road																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Fridays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Sundays	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel																								
2	Open all USH 41 lanes to travel																								

Freeway/Expressway Lane Requirements																									
Limits:	Southbound USH 41: Larsen Road to Scheuring Road (CTH F)																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Monday through Thursday	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Fridays	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Saturdays	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1
Sundays	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel.																								
2	Open all USH 41 lanes to travel.																								

Freeway/Expressway Lane Requirements																									
Limits:	Eastbound STH 172																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
West of Babcock Road	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1
Babcock Road to Oneida Street	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1
East of Oneida Street	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1
Legend																									
1	Provide at least one through freeway lane open in each direction of travel.																								
2	Open all USH 41 lanes to travel.																								

Freeway/Expressway Lane Requirements																										
Limits:	Westbound STH 172																									
	AM												PM													
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
West of Babcock Road	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	
Oneida Street to Babcock Road	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	
East of Oneida Street	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	
Legend																										
1	Provide at least one through freeway lane open in each direction of travel.																									
2	Open all USH 41 lanes to travel.																									

Interchange and Side Road Lane Requirements																										
Limits:	Parkview Road																									
	AM												PM													
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Daily	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C	C	
Legend																										
1	Open all lanes to travel in each direction.																									
C	Parkview Road may be closed completely.																									
REMARKS: Do not close Parkview Road concurrently with Glory Road.																										

Interchange and Side Road Lane Requirements																										
Limits:	CTH AAA Interchange (Oneida Street/Waube Lane)																									
	AM												PM													
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Daily	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	
Legend																										
1	Open all lanes to travel in each direction.																									
C	CTH AAA mainline and CTH AAA ramps may be closed completely.																									
REMARKS:																										
Do not close CTH AAA mainline or CTH AAA ramps concurrently with CTH G, Ashland Avenue connectors, Hansen Road bridge over USH 41, or the following ramp movements at USH 41/STH 172 interchange: westbound to northbound, westbound to southbound, northbound to westbound, southbound to westbound, or eastbound to southbound.																										
Open between August 1 and the end of the Packer’s season annually with comparable capacity to the existing configuration, including left turn lanes onto the northbound and southbound US 41 ramps.																										

Interchange and Side Road Lane Requirements																									
Limits:	Hansen Road																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Legend																									
C	Hansen Road may be closed completely.																								
REMARKS:																									
Do not close Hansen Road concurrently with CTH AAA mainline or ramps.																									

Interchange and Side Road Lane Requirements																									
Limits:	STH 172 Interchange (Ramps)																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily (northbound 41 to westbound 172)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Daily (southbound 41 to eastbound 172)	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C
Daily (southbound 41 to westbound 172)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Daily (northbound 41 to eastbound 172)	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C	C
Daily (eastbound 172 to southbound 41)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Daily (westbound 172 to northbound 41)	C	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C
Daily (eastbound 172 to northbound 41)	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Daily (WB172 to southbound 41)	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C
Legend																									
1	Open all ramp lanes to travel.																								
C	STH 172 ramp may be closed completely.																								
eastbound	Eastbound																								
westbound	Westbound																								
northbound	Northbound																								
southbound	Southbound																								
REMARKS:																									
Do not close northbound USH 41 to westbound STH 172 concurrently with CTH AAA.																									
Do not close southbound USH 41 to eastbound STH 172 concurrently with CTH VK.																									
Do not close southbound USH 41 to westbound STH 172 concurrently with CTH AAA or CTH VK.																									
Do not close eastbound STH 172 to southbound USH 41 concurrently with CTH AAA ramps or Ashland Avenue connectors.																									
Do not close westbound STH 172 to northbound USH 41 concurrently with CTH AAA ramps and CTH VK ramps.																									
Do not close westbound STH 172 to southbound USH 41 concurrently with CTH AAA.																									

Interchange and Side Road Lane Requirements																									
Limits:	CTH VK Interchange (Lombardi Avenue)																								
	AM												PM												
From Hour to Hour	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Daily	C	C	C	C	C	C	1	1	1	1	1	1	1	1	1	1	1	1	1	C	C	C	C	C	C
Legend																									
1	Open all lanes to travel in each direction.																								
C	CTH VK mainline and ramps may be closed completely.																								
REMARKS:																									
Do not close CTH VK mainline or ramps concurrently with CTH AAA, Cormier Road, Morris Avenue, Ninth Street, STH 54, or the following ramp movements at USH 41/STH 172 interchange: southbound to eastbound, southbound to westbound, or westbound to northbound.																									
Open between August 1 and the end of the Packer’s season annually with comparable capacity to the existing configuration, including 2 through lanes on Lombardi, with left and right turn lanes onto the northbound and southbound US 41 ramps.																									

Construction Access

Restrict work on USH 41, USH 41 ramps, STH 172 and STH 172 ramps within closed shoulders or closed lanes as allowed by the plans or engineer. Provide and utilize temporary deceleration and acceleration lanes to/from the work zones. Construction of the temporary lanes shall be incidental to other items of work. All construction access is subject to approval of the engineer.

During the period when lane closures are allowed on USH 41, access into the work zones from USH 41 can be made from the closed lane, subject to the approval of the engineer. Construction traffic from the work zone entering USH 41 must run out of the closed lane. Once construction traffic is within a lane closure, all construction traffic re-entering USH 41 must come to within 10 mph of posted speed before re-entering the live USH 41 lane.

During the period when lane closures are not allowed on USH 41, access into the work zones from USH 41 must be made with a deceleration lane. The length of the deceleration lane is subject to review and approval by the engineer to ensure work zone traffic is exiting safely from USH 41. Construction traffic from the work zone entering live traffic on USH 41 must use an acceleration lane with a minimum length of 1000-feet. The acceleration lane entrance to USH 41 cannot be placed within 1500-feet of an interchange ramp.

Construction traffic cannot travel counter-directional adjacent to USH 41 traffic except behind temporary concrete barrier.

General Access

U-Turns at existing maintenance crossovers or temporary crossovers between US 41 northbound and southbound will be allowed when lane closures are in place for inside northbound and southbound passing lanes.

Construction operations affecting the traveling public's safety on USH 41 will not be allowed during snow and ice conditions, or any other adverse weather conditions, unless approved by the engineer.

Close one lane along entire project during hours when lane closures are required or provide 2-mile minimum spacing between lane closures.

Delivery of equipment to USH 41 requiring the use of a semi tractor and trailer shall only occur during those hours identified as non-peak work periods.

No USH 41 construction access will be allowed from Ninth Street.

Ramp Access

Access on and off of ramps will only be allowed if approved by the engineer. Crossing ramps with construction equipment/vehicles, unless shown in the plans, needs to be approved by the engineer. For crossing of ramps with equipment that is not tire equipped, an engineer approved rolling road block will be required during non-peak hours associated with the ramp area on USH 41.

Pilgrim Way Night Time Closures

Night time closures are allowed along Pilgrim Way between 6:00 PM and 6:00 AM.

USH 41 Night Time Closures during Open Cut Storm Sewer Installations

USH 41 northbound will be limited to one night time closure during an open cut storm sewer installation along USH 41 northbound. USH 41 southbound will be limited to three night time closures during open cut storm sewer installations along USH 41 southbound.

Removal of and Setting Girders on Hansen Road Structure

USH 41 may be closed and detoured for a maximum of four nights between the hours of 7:00 PM to the following morning at 5:00 AM, Sunday, Monday, Tuesday, Wednesday, and Thursday nights to accommodate removal of existing deck and girders on Hansen Road structure.

USH 41 may be closed and detoured for a maximum of three nights between the hours of 7:00 PM to the following morning at 5:00 AM, Sunday, Monday, Tuesday, Wednesday, and Thursday nights to accommodate setting girders on Hansen Road structure.

Setup, sign and maintain a detour for USH 41 northbound and southbound traffic along Ashland Avenue (STH 32) and Lombardi Avenue as detailed in the plans.

STH 172 (Eastbound):

Keep STH 172 (Eastbound) open to traffic as depicted in the traffic control plans. STH 172 (Eastbound) will be limited to the following closures:

- Two nights for demolition of existing USH 41 northbound structure during Stage 1A.
- One night for erection of girders for Structure B-05-622 during Stage 1A.
- One night for erection of retaining wall panels for Structure R-05-211 during Stage 1A.
- Four nights for demolition of existing USH 41 northbound structure during Stage 1B.
- Two nights for erection of girders for Structure B-05-625 during Stage 1B.
- One night for erection of retaining wall panels for Structure R-05-211 during Stage 1B.
- Four nights for demolition of existing USH 41 southbound structure during Stage 2.
- Two nights for erection of girders for Structure B-05-624 during Stage 2.
- One night for erection of retaining wall panels for Structure R-05-211 during Stage 2.

Setup, sign and maintain a detour for STH 172 eastbound traffic along Packerland Drive, Hazelwood Lane/Lombardi Avenue, Ashland Avenue (STH 32) and Vanderperren Way as detailed in the plans.

STH 172 (Westbound):

Keep STH 172 (Westbound) open to traffic as depicted in the traffic control plans. STH 172 (Westbound) will be limited to the following closures:

- Two nights for demolition of existing USH 41 northbound structure during Stage 1A.
- One night for erection of girders for Structure B-05-623 during Stage 1A.
- One night for erection of retaining wall panels for Structure R-05-213 during Stage 1A.
- Four nights for demolition of existing USH 41 northbound structure during Stage 1B.
- Two nights for erection of girders for Structure B-05-627 during Stage 1B.
- One night for erection of retaining wall panels for Structure R-05-213 during Stage 1B.
- Four nights for demolition of existing USH 41 southbound structure during Stage 2.
- Two nights for erection of girders for Structure B-05-626 during Stage 2.
- One night for erection of retaining wall panels for Structure R-05-213 during Stage 2.

Setup, sign and maintain a detour for STH 172 westbound traffic along Pilgrim Way, Ashland Avenue (STH 32), Lombardi Avenue/Hazelwood Lane and Packerland Drive as detailed in the plans.

STH 172 Ramps:

Keep STH 172 Ramps open to traffic as depicted in the traffic control plans. The following STH 172 Ramps will be limited to the following closures:

Ramp ES:

- During the removal of and setting girders on the Hansen Road structure concurrently when USH 41 southbound is closed.
- Two consecutive calendar days during construction of the temporary Ramp ES connection to USH 41 southbound during Stage 2, Phase ML-1.

During the construction of Ramp ES in Stage 2, Phase ML-3, the ramp can be closed for the duration of this phase.

One night during construction of an open cut storm sewer installation along USH 41 southbound south of Ramp ES.

Setup, sign and maintain a detour for Ramp ES traffic along STH 172, Vanderperren Way and Ashland Avenue (STH 32) as detailed in the plans.

Ramp EN:

During construction of Ramp EN in Stage 1A, Phases ML-2 and ML-3, the ramp can be closed for the duration of each phase.

Four nights for demolition of existing USH 41 northbound structure during Stage 1B.

Two nights for erection of girders for Structure B-05-625 during Stage 1B.

One night for erection of retaining wall panels for Structure R-05-210 during Stage 1B.

Four nights for demolition of existing USH 41 southbound structure during Stage 2.

Two nights for erection of girders for Structure B-05-624 during Stage 2.

One night for erection of retaining wall panels for Structure R-05-210 during Stage 2.

During construction of Ramp EN in Stage 2, Phase ML-4, the ramp can be closed for the duration of the phase.

Setup, sign and maintain a detour for Ramp EN traffic along STH 172, Vanderperren Way, Holmgren Way and PilgrimWay as detailed in the plans.

Ramp NW:

Two nights for demolition of existing USH 41 northbound structure during Stage 1A.

One night for erection of girders for Structure B-05-623 during Stage 1A.

One night for erection of retaining wall panels for Structure R-05-212 during Stage 1A.

During construction of Ramp NW in Stage 1A, Phase NE-4, the ramp can be closed for 14 consecutive calendar days.

Four nights for demolition of existing USH 41 northbound structure during Stage 1B.

Two nights for erection of girders for Structure B-05-627 during Stage 1B.

One night for erection of retaining wall panels for Structure R-05-212 during Stage 1B.

Four nights for demolition of existing USH 41 southbound structure during Stage 2.

Two nights for erection of girders for Structure B-05-626 during Stage 2.

One night for erection of retaining wall panels for Structure R-05-212 during Stage 2.

Setup, sign and maintain a detour for Ramp NW traffic along STH 172, Vanderperren Way, Holmgren Way and PilgrimWay as detailed in the plans.

Ramp SW:

During construction of Ramp SW in Stage 2, Phase SW-1, the ramp can be closed for 14 consecutive calendar days.

Five nights during construction of open cut storm sewer installations along Ramp SE.

Setup, sign and maintain a detour for Ramp SW traffic along USH 41, STH 172, Vanderperren Way, Holmgren Way and PilgrimWay as detailed in the plans.

Ramp SE:

Two nights for demolition of existing USH 41 northbound structure during Stage 1A.

One night for erection of girders for Structure B-05-622 during Stage 1A.

One night for erection of retaining wall panels for Structure R-05-211 during Stage 1A.

Four nights for demolition of existing USH 41 northbound structure during Stage 1B.

Two nights for erection of girders for Structure B-05-625 during Stage 1B.

One night for erection of retaining wall panels for Structure R-05-211 during Stage 1B.

Four nights for demolition of existing USH 41 southbound structure during Stage 2.

Two nights for erection of girders for Structure B-05-624 during Stage 2.

One night for erection of retaining wall panels for Structure R-05-211 during Stage 2.

Five nights during construction of open cut storm sewer installations along Ramp SE.

Ramp WS:

During the removal of and setting girders on the Hansen Road structure concurrently when USH 41 southbound is closed.

Two nights for demolition of existing USH 41 northbound structure during Stage 1A.

One night for erection of girders for Structure B-05-623 during Stage 1A.

One night for erection of retaining wall panels for Structure R-05-213 during Stage 1A.

Four nights for demolition of existing USH 41 northbound structure during Stage 1B.

Two nights for erection of girders for Structure B-05-627 during Stage 1B.

One night for erection of retaining wall panels for Structure R-05-213 during Stage 1B.

Four nights for demolition of existing USH 41 southbound structure during Stage 2.

Two nights for erection of girders for Structure B-05-626 during Stage 2.

One night for erection of retaining wall panels for Structure R-05-213 during Stage 2.

One night during construction of an open cut storm sewer installation along USH 41 southbound south of Ramp ES.

Ramp WN:

One night during construction of an open cut storm sewer installation along USH 41 northbound north of Ramp WN.

Parkview Road:

Keep Parkview Road open to one lane in each direction. Parkview Road will be limited to the following closures:

- Four nights for demolition of existing USH 41 northbound structure during Stage 1A.

- Two nights for erection of girders for Structure B-05-621 during Stage 1A.

- One night for erection of retaining wall panels for Structure R-05-206 during Stage 1A.

- Forty-five consecutive days for demolition of existing USH 41 structures and construction of Structures B-05-616, B-05-617 and R-05-206 as required during Stage 1B.

- Fourteen consecutive days for pavement replacement and curb and gutter installation as required during Stage 2.

- Four nights for demolition of existing USH 41 southbound structure during Stage 2.

- Two nights for erection of girders for Structure B-05-616 during Stage 2.

- One night for erection of retaining wall panels for Structure R-05-206 during Stage 2.

Parkview Road cannot be closed concurrently with CTH AAA (Oneida Street) closure.

CTH AAA (Oneida Street):

Keep CTH AAA (Oneida Street) open to traffic as depicted in the traffic control plans. CTH AAA (Oneida Street) will be limited to the following closures:

- Two nights for erection of girders for Structure B-05-612 during Stage 1A.

- Four nights for demolition of existing USH 41 northbound and southbound structures during Stage 1B.

- Four nights for erection of girders for structures B-05-618 and B-05-619 during Stage 1B.

- Four nights for demolition of existing USH 41 southbound structure during Stage 2.

- Two nights for erection of girders for Structure B-05-618 during Stage 2.

The CTH AAA interchange cannot be closed concurrently with the closure of the CTH VK (Lombardi Avenue) interchange. CTH AAA (Oneida Street) cannot be closed concurrently with Parkview Road closure.

Allied Street:

Keep Allied Street open to one lane in each direction. Allied Street will be limited to the following closures:

- One consecutive 21 day closure to construct the south approach of Allied Street during Stage 2, Phase OW3-1.

- One consecutive 21 day closure to construct the north approach of Allied Street during Stage 2, Phase OW4-1.

Hansen Road:

Hansen Road may be closed beginning in Stage 1A, Phase ML-1 and remain closed until the beginning of the Ashwaubenon School District's 2014-2015 school year for construction of the new bridge.

Pilgrim Way:

Keep Pilgrim Way open to one lane in each direction. Pilgrim Way will be limited to the following closures.

Night time closures during open cut storm sewer installations along Pilgrim Way.

Thirty consecutive days for construction of Pilgrim Way during Stage 1B.

Cormier Road:

Keep Cormier Road open to one lane in each direction. Cormier Road will be limited to the following closures.

Thirty consecutive days for demolition of existing USH 41 structures and construction of Structures B-05-628, B-05-629, R-05-214 and R-05-215 as required during Stage 1B.

Thirty consecutive days for demolition of existing USH 41 structures and construction of Structures B-05-628, B-05-629, R-05-214 and R-05-215 as required during Stage 2.

Fourteen days for roadway work along Cormier Road during Stage 2.

Cormier Road cannot be closed concurrently with the Morris Avenue closures. During Green Bay Packer home games and Packer Family Scrimmage, Cormier Road must remain open to one lane in each direction from five hours prior to game until five hours after the game.

Morris Avenue:

Keep Morris Avenue open to one lane in each direction. Morris Avenue will be limited to the following closures:

Thirtyconsecutive days for demolition of existing USH 41 structures and construction of Structures B-05-630 and B-05-631 as required during Stage 1B.

Thirty consecutive days for demolition of existing USH 41 structures and construction of Structures B-05-630 and B-05-631 as required during Stage 2.

Seven days for roadway work along Morris Avenue during Stage 2.

Morris Avenue cannot be closed concurrently with the Cormier Road closures. The Morris Avenue closure may not occur during the Ashwaubenon School District school year. During Green Bay Packer home games and Packer Family Scrimmage, Morris Avenue must remain open to one lane in each direction from five hours prior to game until five hours after the game.

CTH VK (Lombardi Avenue):

Keep all lanes of Lombardi Avenue open in each direction. Lombardi Avenue will be limited to the following closures:

Thirty-five hours, 7:00 PM Sunday to 5:59 AM Tuesday or as approved by the engineer, for demolition of existing US 41 structures as required during Stage 1B.

Two nights for erection of girders for B-05-632 during Stage 1B.

Two nights for erection of girders for B-05-633 during Stage 1B.

Thirty-five hours, 7:00 PM Sunday to 5:59 AM Tuesday, or as approved by the engineer, for demolition of existing US 41 structures as required during Stage 2A.

Two nights for erection of girders for B-05-632 during Stage 2A.

Two nights for erection of girders for B-05-633 during Stage 2A.

The CTH VK interchange cannot be closed concurrently with the closure of the CTH AAA (Oneida Street) interchange.

7.2. Holiday and Other Work Restrictions.

USH 41 shall be restored to 4-lane counter-directional traffic during the following periods. Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying USH 41, STH 172, STH 54 and STH 29 traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights and any other material that might impede the free flow of traffic during the following holiday periods:

- Green Bay Packers home games and Packer Family Scrimmage: From five hours prior to kickoff of the game until five hours after the end of the game;
- From 5:00 PM Friday to 10:00 PM Friday of deer gun opening; each year
- From 5:00 PM Friday to 10:00 PM Friday of fishing opening; each year
- From noon Friday, August 30, 2013 to 5:00 AM Tuesday, September 3, 2013 for Labor Day;
- From noon Wednesday, November 27, 2013 to 5:00 AM Monday, December 2, 2013 for Thanksgiving;
- From noon Friday, May 23, 2014 to 5:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014 to 5:00 AM Monday, July 7, 2014 for Independence Day;
- From noon Friday, August 29, 2014 to 5:00 AM Tuesday, September 2, 2014 for Labor Day;
- From noon Wednesday, November 26, 2014 to 5:00 AM Monday, December 1, 2014 for Thanksgiving;
- From noon Friday, May 22, 2015 to 5:00 AM Tuesday, May 26, 2015 for Memorial Day;
- From noon Friday, July 3, 2015 to 5:00 AM Monday, July 6, 2015 for Independence Day;

- From noon Friday, September 4, 2015 to 5:00 AM Tuesday, September 8, 2015 for Labor Day;
- From noon Wednesday, November 25, 2015 to 5:00 AM Monday, November 30, 2015 for Thanksgiving;
- From noon Friday, May 27, 2016 to 5:00 AM Tuesday, May 31, 2016 for Memorial Day;
- From noon Friday, July 1, 2016 to 5:00 AM Tuesday, July 5, 2016 for Independence Day;
- From noon Friday, September 2, 2016 to 5:00 AM Tuesday, September 6, 2016 for Labor Day;

Prior to preparing bids, verify the dates of each festival, game, or event listed to obtain current dates for work restrictions.

7.3. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

Check for and comply with local ordinances governing the hours of operation of construction equipment.

The City of Green Bay has indicated that they will not allow a variance to their noise ordinance.

The Village of Ashwaubenon has agreed to waive any noise ordinances/restrictions pertaining to the construction of the USH 41 project for the duration of the contract.

Delete standard spec 107.8 (4) and replace with the following:

Notify the following organizations and departments at least 72 hours before road closures or detours are put into effect:

Brown County Public Safety Communications	(920) 391-7440
Wisconsin State Patrol	(920) 929-3700
Brown County Sheriff's Department	(920) 448-4219
De Pere Fire Department	(920) 339-4085
De Pere Police Department	(920) 339-4075
US Post Office (De Pere, South 9 th Street)	(920) 336-4306
De Pere School District	(920) 337-1032
West De Pere School District	(920) 337-1393
Ashwaubenon Department of Public Safety	(920) 492-2900
US Post Office (Ashwaubenon, Hansen Road)	(920) 405-0665
Ashwaubenon School District	(920) 492-2900
Oneida Tribal Police Department	(920) 869-2239
Oneida Post Office	(920) 869-3710
Oneida Tribal School District	(920) 869-1676

Green Bay Fire Department	(920) 448-3280
Green Bay Police Department	(920) 448-3208
Green Bay School District	(920) 448-2000
US Post Office (Green Bay, Packerland Avenue)	(920) 498-3895
US Post Office (Green Bay, Military Avenue)	(920) 497-5216

The Brown County Public Safety Communications 911 dispatches all area police, fire and ambulance services, and will relay any notification given by the contractor in the event of an emergency.

Notify the Green Bay Metro one week in advance for any road closure that would impact their existing bus routes. The contact person for the Green Bay Metro is Patty Kiewiz, whose contact information is as follows:

Patty Kiewiz
Operations Manager
Green Bay Metro
901 University Avenue
Green Bay, WI 54302-1013
(920) 448-3455
patriciaki@greenbaywi.gov

7.4. Concrete Barrier Temporary Precast.

Perform this work in accordance to standard spec 603, these special provisions, and as hereinafter provided.

Concrete Barrier Temporary Precast shall be 12'-6" in length. Concrete Barrier Temporary Precast 10'-0" will not be allowed.

If the contractor chooses to store materials, equipment or other items that are a hazard within 4-feet of the construction zone side (deflection zone) of the barrier the barrier shall be anchored. The barrier must also be anchored when used on edge of bridge decks or locations where the drop-off exceeds 2-feet, is steeper than 3H:1V and is less than 4-feet from the side of the barrier closest to the drop off. The system must be anchored as shown in the standard detail drawing.

7.5. Concrete Barrier Temporary Precast Left In Place by Others.

Maintain concrete barrier temporary precast left on the project site by others in accordance to standard spec 603, these special provisions, as directed by the engineer, and as hereinafter provided. The barrier left in place by others becomes property of the contractor unless designated otherwise in the contract.

Reinstallation of temporary barrier left on the project by others will be paid for under the pertinent items in the contract. Removal of temporary barrier left on the project by others will be paid for under the pertinent items included in the contract.

7.6. Crash Cushions Permanent Low Maintenance.

Complete work in accordance to standard spec 614.

Replace standard spec 614.2.7(1) with the following:

Furnish Model SCI 100GM Crash Attenuator from Smart Cushion Innovations (SCI) Products for permanent crash cushions.

7.7. Crash Cushions Temporary.

Complete work in accordance to standard spec 614 and as hereinafter provided.

Supplement standard spec 614.3.4 with the following:

Locate the manufacturer's foundation pad adjacent to the existing paved shoulder. Provide a transition foundation pad section using a 15:1 taper rate after the required manufacturer's crash cushion pad following the manufacturer's recommended dimensions. Construct this transition piece using identical materials and depths used for the foundation pad. Place aggregate base course behind the transition pad section to blend to existing slopes.

7.8. Maintenance and Removal of Crash Cushions Temporary Left In Place by Others, Item SPV.0060.200.

A Description

This special provision describes maintaining and removing temporary crash cushions left in place by others in accordance to standard spec 614.

The crash cushion left in place by others becomes the property of the contractor upon notice to proceed.

B Materials

Furnish any replacement materials for the temporary crash cushions left in place by others in accordance to the pertinent requirements of standard spec 614.2.

C Construction

Maintain and remove the temporary crash cushion in accordance to standard spec 614.3.4.

D Measurement

The department will measure Maintenance and Removal of Crash Cushions Temporary Left In Place by Others as each individual crash cushion location, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.200	Maintenance and Removal of Crash Cushions Temporary Left In Place by Others	Each

Payment is full compensation for maintaining and removing the crash cushions; and for removing and disposing of all materials.

7.9. Temporary Thrie Beam Connection, Item SPV.0060.201.**A Description**

Furnish, install, maintain and remove temporary thrie beam connections between permanent concrete barrier and temporary precast concrete barrier at the indication locations in accordance to the plans, standard specifications, as directed by the engineer and as hereinafter provided.

B Materials

Provide all materials in accordance to standard spec 614.

C Construction

Securely attach thrie beam to the concrete barrier as indicated in the plans.

D Measurement

The department will measure Temporary Thrie Beam Connection as each individual temporary thrie beam connection installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.201	Temporary Thrie Beam Connection	Each

Payment is full compensation for furnishing, installing, maintaining and removing the temporary thrie beam connections, including hardware.

7.10. Glare Screens Temporary, Item SPV.0090.200.**A Description**

The work under this item shall include furnishing, installing, maintaining, and removing a modular paddle glare guard system on concrete barrier temporary precast at the indicated locations in accordance to the plans and standard specifications, as directed by the engineer and as hereinafter provided.

B Materials

Glare guard units shall be modular units consisting of vertical blades, bases, and a horizontal base rail. The paddle devices shall be a minimum of 24-inches in height and be constructed of durable, impact resistant, non-warping flexible materials.

Units shall be modular in design to provide for portability, quick repair and easy installation. The cumulative nominal length of the modular units shall equal the length of the temporary barrier on which they are installed so that the joint between the barrier sections shall not be spanned by any one unit. Units shall not alter the design of the concrete barrier.

The relative connection strengths between various components of the assembly shall be designed to minimize the potential impact and debris hazard to approaching traffic and to simplify repairs. The modular units shall be fabricated in a manner to allow replacement of individual blades while the modular unit remains in place.

The blade, base and rail shall be made of high impact materials with sufficient strength to withstand three impacts from a horizontal steel bar traveling at 40 mph and impacting at mid-height of the blade. After three impacts, there shall be no evidence of cracking, splitting, delaminating or separation from the system.

The paddle glare guard provided shall be a material manufactured by Safe-Hit Corporation, 2405 IH 35 West, New Braunfels, Texas, 78130; Carsonite International, 2900 Lockhead Way, Carson City, Nevada, 89701; Flexstake Incorporated, 2150 Andrea Lane, Fort Myers, Florida, 33912; or approved equal.

C Construction

Attachment of the base rail to the top of the concrete barrier temporary precast shall be by means of a mechanical or adhesive system with a minimum pullout and shear of 3000 psi. All mounting hardware shall be as specified by the manufacturer.

D Measurement

The department will measure Glare Screens Temporary by the linear foot of paddle glare guard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.200	Glare Screens Temporary	LF

Payment is full compensation for furnishing, installing, maintaining and removing the Glare Screens Temporary.

7.11. Concrete Barrier Temporary Precast Anchoring, Item SPV.0090.201.

A Description

This special provision describes anchoring temporary concrete barrier. Perform this work in accordance to applicable portions of standard spec 603 and as hereinafter provided.

B (Vacant)

C Construction

Perform this work in accordance to standard spec 603.3.2.1, the plans, and as hereinafter provided.

Under the Concrete Barrier Temporary Precast Anchoring bid item, furnish, deliver, and install anchors at the locations shown in the plans, as required by the project conditions, or as directed by the engineer. Install anchors during the initial installation of the temporary concrete barrier and during any subsequent reinstallations of the temporary concrete barrier as required.

Remove any anchoring during barrier removal and fill remaining holes with epoxy.

D Measurement

The department will measure Concrete Barrier Temporary Precast Anchoring by the linear foot, acceptably completed, measured as the linear feet of barrier initially installed or reinstalled. The department will not measure anchoring made solely to accommodate the contractor's means and methods.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.201	Concrete Barrier Temporary Precast Anchoring	LF

Payment is full compensation for furnishing, delivering, and installing anchoring devices; for removal of any anchoring devices and filling holes with epoxy.

7.12. Traffic Control.

Perform this work in accordance to the requirements of standard spec 643, and as shown on the plans or as approved by the engineer, except as hereinafter modified.

Submit to engineer for approval a detailed traffic control plan for any changes to the proposed traffic control detail as shown on the plans. Submit this plan ten days prior to the preconstruction conference.

Provide 24 hours-a-day availability of equipment and forces to expeditiously restore lights, signs, or other traffic control devices that are damaged or disturbed. The cost to maintain and restore the above items shall be considered incidental to the item as bid and no additional payment will be made therefore.

Supply the name and telephone number of a local contact person for traffic control repair before starting work.

Have available at all times sufficient experienced personnel to promptly install, remove and reinstall the required traffic control devices to route traffic during the construction operations.

The turning of traffic control devices when not in use to obscure the message will not be allowed under this contract.

Obtain prior approval from the engineer for the location of egress and ingress for construction vehicles to prosecute the work.

Cover existing signs which conflict with traffic control as directed by the engineer.

Conduct operations in such a manner that causes the least interference and inconvenience to the free flow of vehicles on the roadways. This includes the following:

- a. Do not park or store any vehicle, piece of equipment, or construction materials on the right-of-way without approval of the engineer.
- b. All construction vehicles and equipment entering or leaving live traffic lanes shall yield to through traffic.
- c. Equip all vehicles and equipment entering or leaving the live traffic lanes with a hazard identification beam (flashing yellow signal) capable of being visible on a sunny day when viewed without the sun directly on or behind the device from a distance of 1000 feet. Activate the beam when merging into or exiting a live traffic lane.

Do not disturb, remove or obliterate any traffic control signs, advisory signs, shoulder delineators or beam guard in place along the traveled roadways without the approval of the engineer. Immediately repair or replace any damage done to the above during the construction operations at contractor expense.

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency.

8. Utilities and Railroads.

8.1. Utilities.

- (1) This contract comes under the provision of Administrative Rule Trans 220. 107-065 (20080501)

- (2) There are utility facilities within the construction limits of this project. Additional detailed information regarding the location of vacated, relocated, and/or removed utility facilities is available in the work plan provided by each utility company or on the permits issued to them. View these documents at the Regional Office during normal working hours.
- (3) Work around or remove and dispose of any vacated utility conduits, cables, and pipes encountered during excavation. Any removal and disposal shall be incidental to common excavation, unless specified otherwise in this contract as a separate bid item.
- (4) When interpreting the term “working days” within the “Utilities” article of these special provisions (and only within this article), use the definition provided in Trans 220.03(20) of the Wisconsin Administrative Code rather than the definition provided in standard spec 101.3.
- (5) Some of the utility work described below is dependent on prior work being performed by the contractor at a specific site. In such situations, provide a good faith notice to both the engineer and the affected utility of when the utility is to start work at the site. Unless specified otherwise in this article, provide this notice 14 to 16 calendar days in advance of when you anticipate the prior work being completed and provide a confirmation notice to the engineer and the utility 3 to 5 working days before the site will be ready for the utility to begin its work.

Project 1133-03-77

- (6) **AT&T Wisconsin** has **communication** facilities within the construction limits. AT&T Wisconsin has facilities on the east side of USH 41 between Station 1007'NB'+50 and Station 1009'NB'+50. AT&T Wisconsin plans to adjust the elevation of three pedestals in this area. Stake the proposed finished grade at each pedestal and notify AT&T Wisconsin 3-4 weeks prior to grading within five feet of the pedestals. Allow AT&T Wisconsin up to one working day to complete the adjustments prior to grading.
- (7) The **City of Green Bay** has **sanitary sewer** facilities within the construction limits, including manholes near Station 987'NB'+25 (RT) and near Station 988'SB'+50 (LT). The City of Green Bay plans to reconstruct the top of these manholes to within one foot of the proposed finished grade prior to construction. Adjust these manholes to the finished grade per bid item SPV.0060.652.
- (8) **Wisconsin Public Service Corporation (WPS)** has overhead **electric** facilities between Station 1007'NB'+00 and Station 1012'NB'+00 which are expected to be in conflict with the construction of Noise Barrier N-05-0012. Prior to construction, WPS plans to relocate the poles in this area to approximately 10 feet east of the proposed noise barrier. Notify WPS prior to grading within 10 horizontal feet of their overhead line in this area. Allow WPS up to 5 working days to remove the overhead lines (but not the overhead laterals between utility poles and the houses they serve) and place temporary electric lines in conduits on the ground between the utility poles. Notify WPS when the noise barrier is complete in this area and allow WPS up to 2 working days to re-erect the overhead lines.

- (9) WPS has overhead electric facilities along the south side of Morris Avenue which cross USH 41 near Station 960'NB'+75 and near Station 961'SB'+00. Prior to construction, WPS plans to remove the overhead facilities between new utility poles near Station 959'NB'+85 (RT) and near Station 961'SB'+90 (LT). WPS plans to install underground electric facilities:
- From the new WPS utility pole near Station 959'NB'+85 (RT),
 - Then south, parallel to USH 41 to approximately Station 959'NB'+40 (RT),
 - Then west, perpendicular to USH 41 for approximately 325 feet at Station 959'NB'+40 (RT),
 - Then north, parallel to USH 41 to the new WPS utility pole near Station 961'SB'+90 (LT).
- (10) The following utilities have facilities within the construction limits, but do not anticipate any conflicts and do not plan to make any adjustments to their facilities:
- The **Village of Ashwaubenon Water and Sewer Utility** (sanitary sewer and water)
 - **Time Warner Cable** (communication)
 - **Wisconsin Public Service Corporation** (gas)

Project 1133-09-71

- (11) The **Village of Ashwaubenon Water and Sewer Utility** has **sanitary sewer** facilities within the construction limits. The Village does not anticipate any conflicts with the sewer pipes, however the rim of each manhole may need to be adjusted by the Village. Stake the desired elevation of each manhole requiring adjustment and coordinate with the Village to have the manholes adjusted. Allow the Village up to 1 working day to adjust each manhole.
- (12) The **Village of Ashwaubenon Water and Sewer Utility** has **water** facilities within the construction limits. The Village does not anticipate any conflicts with the water main pipes, however the rim of each valve box may need to be adjusted by the Village. Stake the desired elevation of each valve requiring adjustment and coordinate with the Village to have the water valves adjusted. Allow the Village up to 1 working day to adjust each water valve.
- (13) When installing storm sewer pipes across a water main, install 2-inches of insulation between the storm sewer and the water main, per bid item 612.0902.S.
- (14) The **Ashwaubenon School District (ASD)** has **communication** facilities along the west side of Pilgrim Way from south of the project limits to approximately Station 914'PIL'+50, across USH 41 near Stations 914'NB'/'SB'+50, and across North Road near Station 914'NOR'+50. This facility is in conflict with the proposed noisewall along the west side of Pilgrim Way between approximately Stations 905'PIL'+00 and 914'PIL'+50. In July 2012, ASD relocated their facilities – including two vaults – to the east side of Pilgrim Way between approximately Stations 905'PIL'+00 and 914'PIL'+50.

- (15) Notify the Ashwaubenon School District 3 to 5 working days prior to excavating within 18-horizontal-inches of their facility locate marks to schedule a representative to observe the work.
- (16) **AT&T Wisconsin** has **communication** facilities within the construction limits, including an underground 9-PVC duct package along the east side of North Road and crossing Ramp SE near Station 908‘SE’+00, southbound USH 41 near Station 906‘SB’+50, northbound USH 41 near Station 906‘NB’+25, and Pilgrim Way near Station 906‘PIL’+25. AT&T Wisconsin plans to vacate this duct package across USH 41 and Pilgrim Way, but leave the section along North Road in service. Before March 31, 2013, AT&T Wisconsin plans to begin system improvements outside of the construction limits which are necessary to allow the duct package to be vacated. AT&T Wisconsin anticipates the ducts will be vacated within 120 working days of this work beginning.
- (17) AT&T has (2) copper cables along the North side Parkview Road that parallel the South side of the railroad tracks. No conflicts are anticipated with these facilities, however use caution when excavating in this area. AT&T also has (1) copper cable along the South side of Parkview Road that will be retired in place.
- (18) AT&T maintains (2) fiber optic cable and (1) copper cable crossing USH 41 at Glory Road. No conflicts are anticipated, however if facilities need adjustment during construction. Contractor is to allow AT&T 3 working day notice, 3 working days to locate facilities in the field and 3 working days to complete work.
- (19) The **Green Bay Metropolitan Sewerage District (GBMSD)** has a **sanitary sewer** manhole within the grading limits west of USH 41 near Station 882‘ES’+90. Notify GBMSD prior to staking the final grade near this manhole so GBMSD can adjust the manhole to final grade. GBMSD anticipates one working day will be required to complete this work.
- (20) **Level 3** has vacated overhead and underground **communication** facilities along the south side of Hansen Road, crossing northbound USH 41 near Station 867‘NB’+80 and southbound USH 41 near Station 868‘SB’+80. The overhead Level 3 line is expected to be in conflict with the construction of the Hansen Road Bridge (B-05-611). Level 3 plans to remove the overhead facilities and utility poles prior to construction.
- (21) **Schneider National** has an underground **communication** facility along the south side of Parkview Road, crossing USH 41 near Stations 821‘SB’/‘NB’+05. This 2-inch duct is in conflict with the construction of the proposed retaining wall R-05-206. Schneider National plans to vacate this facility between Stations 195‘PRK’+00 and 205‘PRK’+50 and install two new 2-inch ducts at least 4 feet deep in the eastbound lane of Parkview Road, crossing USH 41 near Stations 821‘SB’/‘NB’+15. Schneider National performed this work in November and December 2012 and plans to complete restoration of the area in the spring of 2013.

- (22) The **Wisconsin Department of Transportation** (WisDOT) has **freeway traffic management system** facilities within the construction limits:
- (23) WisDOT has an underground fiber optic cable running along the southeast side of Ramp NE (ramp from northbound USH 41 to eastbound STH 172) from approximately Station 876'NE'+65 RT through 890'NE'+30 RT. This underground fiber optic cable then continues along the south side of eastbound STH 172 from approximately Station 59'EE'+55 RT through the end of construction limits at 66'EE'+45 RT. Portions of this fiber optic cable reside in an area of proposed excavation and grading activity along Ramp NE and STH 172 eastbound. Lowering of the underground fiber optic cable is not expected to be necessary; however, use caution during excavation and grading in the vicinity of the fiber optic cable.
- (24) An in-ground communication vault with a surface mounted cover exists along this fiber optic cable run within construction limits near Station 878'NE'+00 RT.
- (25) WisDOT has an underground fiber optic cable running along the west side of Ramp NW (ramp from northbound USH 41 to westbound STH 172) from approximately Station 878'NW'+80 LT through 888'NW'+20 LT. This underground fiber optic cable then continues along the north side of eastbound STH 172 from approximately Station 48'EE'+35 LT through the end of construction limits at 42'EE'+30 LT. Portions of this fiber optic cable reside in an area of proposed excavation and grading activity along Ramp NW. Lowering of the underground fiber optic cable is not expected to be necessary; however, use caution during excavation and grading in the vicinity of the fiber optic cable.
- (26) An in ground communication vault with a surface mounted cover exists along this fiber optic cable run within construction limits near Station 878'NW'+80 LT.
- (27) WisDOT has an underground fiber optic cable passing below the combined portion of Ramp NE/NW between the aforementioned communication vaults at 878'NE'+00 RT and 878'NW'+80 LT. Lowering of the underground fiber optic cable crossing is not expected to be necessary; however, caution should be used during excavation and ramp reconstruction in the vicinity of the fiber optic cable. Use caution when driving beam guard posts in the vicinity of the fiber optic cable crossing.
- (28) WisDOT has a freeway traffic management system camera in place within the infield of the USH 41 and STH 172 Interchange. The camera resides on the east side of USH 41 between the two directions of STH 172 near Station 890'EN'+25 RT. The camera is not expected to be impacted by construction activities, though caution should be used in its vicinity. The electrical cable run serving this camera leads away from the site to the northeast and crosses multiple roadways before reaching an electrical service in the northeast quadrant of the USH 41 and STH 172 Interchange. The camera electrical cable run is not expected to be impacted by construction activities, though caution should be used in its vicinity. Approximate roadway crossing locations for this camera electrical cable run are as follows:

- Westbound STH 172 near Station 42W+75.
 - Ramp from westbound STH 172 to southbound USH 41, station unknown.
 - Ramp from westbound STH 172 to northbound USH 41 near Station 890WN+10.
- (29) **Wisconsin Public Service Corporation (WPS)** has overhead electric facilities within the construction limits and plans to adjust them as follows within 45 working days beginning in April 2013:
- (30) WPS has overhead electric facilities along the south side of Parkview Road, crossing USH 41 near Stations 821'SB'/'NB'+10. This facility is in conflict with the construction of structures B-05-616, B-05-617, and B-05-621. WPS plans to remove the overhead electric lines between new poles near Stations 198'PRK'+00 and 201'PRK'+90. From the new pole at Station 198'PRK'+60, WPS plans to install underground electric facilities:
- southward, parallel to USH 41, to Station 820'SB'/'NB'+60,
 - then westward, approximately 350 feet, perpendicularly beneath USH 41, at an elevation ranging from 597 feet at Station 198 'PRK'+10 to approximately 600 feet at Station 201'PRK'+50,
 - then northward, parallel to USH 41, to the south edge of the Parkview Road right-of-way,
 - then westward, parallel to Parkview Road, approximately 40 feet, at a depth of approximately 5 feet to the new pole near Station 201'PRK'+90.

Do not place any strip drains within 5 feet of underground utilities. In addition, WPS plans to remove utility poles at Stations 198'PRK'+60 and 200'PRK'+87, along with the associated anchors.

- (31) WPS has an overhead electric facility along the east side of North Road between approximately Stations 905'NOR'+75 and 909'NOR'+50 and an underground electric facility crossing North Road near Station 909'NOR'+50. The overhead portion is in conflict with the proposed noise wall N-05-0011-01. WPS plans to move the pole near Station 909'NOR'+50 to the west side of the road and remove the pole near Station 905'NOR'+75.
- (32) WPS has a light pole near Station 915'NOR'+00 that may need to be supported during construction of the proposed noise wall N-05-0011-01. Coordinate with WPS to have the pole supported during construction.
- (33) WPS has an overhead lighting circuit along the west side of Pilgrim Way between approximately Station 910'PIL'+50 and Cormier Road. This facility is in conflict with proposed noise wall N-05-0010-01. WPS plans to relocate the lighting circuit to the east side of Pilgrim Way.

- (34) WPS has an overhead electric facility along the south side of Cormier Road which crosses USH 41 near Stations 931'SB'+50 and 931'NB'+00. This facility is in conflict with the construction of proposed structures B-05-628 and B-05-629. WPS plans to remove this facility between Stations 497'COR'+75 and 502'COR'+00 and install a new underground facility perpendicular across USH 41 near Stations 929'SB'/'NB'+75.
- (35) **Wisconsin Public Service Corporation (WPS)** has **gas** facilities within the construction limits and plans to make the following adjustments:
- (36) WPS has a 6-inch steel gas main along the south side of Parkview Road. WPS anticipates the main will be in conflict with retaining wall R-5-206. Therefore, WPS plans to vacate the 6-inch steel gas main and replace it with a new 6-inch steel gas main along the south edge of the Parkview Road right-of-way between South Ridge Road and Holmgren Way (beyond the construction limits). At Station 198'PRK'+00, the new gas main will curve southward and run parallel to USH 41 approximately 100 feet to Station 820'NB'+00, then across USH 41 to Station 201'PRK'+50, then parallel to USH 41 again, returning to Parkview Road before resuming eastward along the south edge of Parkview Road. Do not place any strip drains within five feet of underground utilities.
- (37) WPS plans to install a 6-inch plastic gas main. It will be installed near, and parallel to, the relocated 6-inch steel gas main described in the above paragraph.
- (38) WPS plans to vacate the 4-inch steel gas main across Ramp WS near Station 904'WS'+00, across USH 41 near Station 904'SB'+50, across Ramp EN near Station 905'EN'+00, across Pilgrim Way near Station 905'PIL'+35, and across the proposed storm sewer between Manhole 210A and Inlet 210B. The main will remain active within the Ridge Road right-of-way east of Station 905'PIL'+49 (81 feet right).
- (39) WPS has a 2-inch plastic gas main across Pilgrim Way near Station 905'PIL'+35 which will be in conflict with the proposed storm sewer between Manhole 210A and Inlet 210B. WPS plans to vacate this gas main and install a new 2-inch plastic gas main across Pilgrim Way near Station 904'PIL'+80 which will tie into the existing 4-inch steel gas main described above near Station 905'PIL'+49 (81 feet right).
- (40) WPS has a vacated 4-inch steel gas main along the South side of Cormier Road. This facility could contain asbestos wrap, but is not expected to be in conflict with construction. Notify WPS if the project plans are modified in such a manner as to create a conflict to arrange for WPS to test, and if necessary, remove any hazardous gas main wrap within the excavation limits.
- (41) WPS plans to install a new 6-inch plastic gas main across USH 41 near Station 930'NB'+00 to replace the existing 6-inch plastic gas main along Cormier Road between Station 497'COR'+50 and Station 501'COR'+50.
- (42) WPS plans to begin the above work in May 2013 and complete it within 45 working days.

Project 1133-09-74

- (43) The **Village of Ashwaubenon Water and Sewer Utility (Village)** has **water** facilities within the construction limits, including a 12-inch watermain along the south side of Hansen Road. Prior to construction, the Village plans to replace the watermain between Station 397'HANS'+50 and Station 402'HANS'+70 with a new 12-inch watermain across USH 41.
- (44) **Claim Management Services (CMS)** has private underground **communication** facilities across Hansen Road between two CMS buildings east of USH 41. CMS is using the fiber optic line on a limited basis. CMS anticipates the line will be in conflict with excavation for grading and storm sewer installation. Therefore, CMS plans to establish an alternate means of communication which does not require new facilities in the right-of-way and vacate the existing communication line prior to construction.
- (45) **Level 3** has vacated overhead and underground **communication** facilities along the south side of Hansen Road, crossing northbound USH 41 near Station 867'NB'+80 and southbound USH 41 near Station 868'SB'+80. The overhead Level 3 line is expected to be in conflict with the construction of the Hansen Road Bridge (B-05-611). Level 3 plans to remove the overhead facilities and utility poles prior to construction.
- (46) **Wisconsin Public Service Corporation (WPS)** has an overhead **electric** line along the south side of Hansen Road west of the utility pole near Station 396'HANS'+75. This pole is in conflict with the proposed guardrail. WPS plans to move the pole to the southwest, beginning their relocation on April 1, 2013 and anticipates up to 45 working days to complete their work.
- (47) The following utilities have facilities within the construction limits, but **do not anticipate any conflicts** and do not plan to make any adjustments to their facilities:
- **AT&T Wisconsin** (communication)

Project 1133-09-76

- (48) The **Village of Ashwaubenon Water and Sewer Utility** has **sanitary sewer** facilities within the construction limits. The Village does not anticipate any conflicts with the sewer pipes, however the rim of each manhole may need to be adjusted by the Village. Stake the desired elevation of each manhole requiring adjustment and coordinate with the Village to have the manholes adjusted. Allow the Village up to 1 working day to adjust each manhole.
- (49) The **Village of Ashwaubenon Water and Sewer Utility** has **water** facilities within the construction limits. The Village does not anticipate any conflicts with the water main pipes, however the rim of each valve box may need to be adjusted by the Village. Stake the desired elevation of each valve requiring adjustment and coordinate with the Village to have the water valves adjusted. Allow the Village up to 1 working day to adjust each water valve.

- (50) The Village of Ashwaubenon Water and Sewer Utility has two water valves which appear to be in conflict with the proposed storm sewer pipe between manhole #657 and inlet #654. The valve boxes have some ability to be shifted by the Utility. Contact the Village of Ashwaubenon Water and Sewer Utility after staking the proposed storm sewer and allow the Utility up to 3 working days to shift each valve during construction.
- (51) When installing storm sewer pipes across a water main, install 2-inches of insulation between the storm sewer and the water main, per bid item 612.0902.S.
- (52) **AT&T Wisconsin** has **communication** facilities within the construction limits. AT&T Wisconsin plans to relocate their underground facilities at the intersection of Waube Lane (CTH AAA) and Allied Street during construction. Notify AT&T Wisconsin prior to staking storm sewer and allow AT&T Wisconsin up to 9 working days to complete their work in this area.
- (53) Between Station 848'OWA'+00 and Station 849'OWA'+00 of the southbound USH 41 off ramp at Waube Lane/Oneida Street (CTH AAA), AT&T Wisconsin plans to relocate their underground facilities and pedestal to the west edge of the proposed right-of-way. AT&T Wisconsin plans to begin this relocation by March 31, 2013 and complete it within 120 working days.
- (54) **Schneider National** has 2-inch **communication** ducts and handholes underground along the west side of Allied Street and along the north side of Waube Lane/Oneida Street (CTH AAA). Schneider National does not anticipate any conflicts with the facilities along Allied Street. However, the facilities along Waube Lane/Oneida Street (CTH AAA) are anticipated to be in conflict with the proposed storm sewer facilities. Schneider National plans to have their contractor install two new 2-inch ducts, including new handholes, along the north edge of the new right-of-way of Waube Lane/Oneida Street (CTH AAA). The Schneider National contractor will then remove existing handholes and vacate the existing ducts between Station 686'OWW'+00 and Station 711'OWW'+50 (near Phoenix Way, north of the construction limits). Schneider National plans for this work to begin no later than April 30, 2013 and complete it within 30 working days.
- (55) **Time Warner Cable** has overhead **communication** facilities attached to Wisconsin Public Service (WPS) utility poles along the east side of Allied Street crossing Waube Lane (CTH AAA) near Stations 687'OWE'/'OWW'+25. Time Warner Cable plans to relocate their overhead facilities to new WPS utility poles to be erected as described in WPS's electric section of this article.
- (56) Time Warner Cable has underground communication facilities along the east side of Allied Street north of Station 798'ALL'+75. This coaxial cable is expected to be in conflict with signal base SB7 at the intersection of Waube Lane (CTH AAA) and Allied Street. Time Warner Cable plans to vacate the cable and replace it with a new cable to be installed either overhead on the WPS utility poles or underground along the west edge of the right-of-way.

- (57) Time Warner Cable has underground communication facilities along the east side of Ramada Way, crossing Oneida Street (CTH AAA) near Stations 709'OWE'+00 and 708'OWW'+75. The Time Warner pedestal near Station 899'RA'+75 in the southeast quadrant of the Oneida Street (CTH AAA) and Ramada Way intersection is in conflict with the proposed storm sewer. Time Warner Cable plans to lower the cable and relocate the pedestal to the edge of the right-of-way.
- (58) Time Warner Cable plans to begin the relocations for this project on April 8, 2013, pending WPS electric, and anticipates up to 45 working days will be required to complete it.
- (59) **Wisconsin Public Service Corporation (WPS)** has overhead **electric** facilities along the south side of Oneida Street/Waube Lane (CTH AAA), including a pole near Station 692'OWE'+20. When the existing traffic signals at the USH 41 ramp terminals are no longer in use, WPS plans to remove this pole and replace it to the southeast near the right-of-way line at Station 692'OWE'+60 with guying to the east. WPS plans to remove the overhead wires between the pole near Station 692'OWE'+20 and the pole near Station 697'OWE'+00, along with removing poles near:
- Station 692'OWE'+20 (right),
 - Station 694'OWE'+55 (right),
 - Station 695'OWW'+90 (left), and
 - Station 697'OWE'+00 (right).

In addition, WPS plans to vacate the underground line between the pole near Station 695'OWW'+90 (left) and the control cabinet near Station 698'OWW'+50. Notify WPS prior to disconnecting the existing traffic signals and allow WPS up to 3 working days during construction to perform this work.

- (60) When the existing street lights between USH 41 and Ramada Way are no longer required (during construction), WPS plans to remove the overhead lines from the pole near Station 702'OWW'+60 to the east side of Ramada Way, 75 feet north of the construction limits, along with street light poles near:
- Station 702'OWW'+60 (left),
 - Station 704'OWE'+35 (right),
 - Station 706'OWE'+75 (right),
 - Station 708'OWW'+70 (left), and
 - Station 709'OWE'+05 (right).

Notify WPS prior to the desired street light removal and allow WPS up to 3 working days during construction to perform this work.

- (61) WPS also has underground electric facilities along the north side of Oneida Street/Waube Lane (CTH AAA) between Allied Street and Ramada Way. From the northwest corner of Oneida St and Ramada Way, the underground line crosses Oneida St near Station 708'OWE'+05, follows the proposed curb line around the southwest corner of the intersection of Oneida Street and Ramada Way, then crosses Ramada Way near Station

899'RA'+50, and continues south along the east side of Ramada Way out of the construction limits. WPS plans to vacate this line from a new splice near the northwest corner of Allied St to the southeast corner of Ramada Way, installing a new underground line as follows:

- From a new splice near Station 850'ALL'+75, along the north side of Waube Lane, under the proposed sidewalk, at a depth of 4 feet, to Station 688'OWW'+90,
- Then east along the northern right-of-way line at a depth of 4 feet, to a new underground fiberglass junction enclosure near Station 694'OWW'+70,
- Then north along the west side of the southbound USH 41 off ramp approximately 85 feet,
- Then bored to the northeast at an elevation of 596 feet under Ramp OWA near Station 837'OWA'+75, USH 41 near Stations 839'SB'+15, 839'NB'+75, and 840'CD'+25, and Ramp OWD near Station 840'OWD'+55, to the right-of-way line near Station 704'OWW'+65,
- Then southeast for 60 feet, at a depth of 4 feet, to north of the proposed sidewalk near Station 705'OWW'+00,
- Then bored south for 130 feet, at a depth of 5 feet, across Oneida Street near Stations 705'OWW'+00 and 705'OWE'+40 to 5 feet north of the proposed curb line on the north side of the Paddy O's parking lot,
- then the wire will continue north east, 3 to 5 feet north of the southerly right-of-way line, for 230 feet at a depth of 4 feet,
- then bored north east under Ramada Way near Station 899'RA'+25 at a depth of 4 feet, where it will be spliced to the existing wire on the east side of Ramada Way.

(62) WPS has overhead electric facilities along the east side of Allied St. WPS plans to remove the pole at the northeast corner of Allied Street and Waube Lane (CTH AAA) and install a new pole near Station 850'ALL'+80. In addition, WPS plans to remove pole in the southeast corner of Allied Street and Waube Lane (CTH AAA) and install a new pole 10 feet to the east.

(63) Unless otherwise noted, WPS plans to begin their relocations for Project 1133-09-76 by April 1, 2013 and anticipates up to 45 working days will be required to complete it.

(64) The following utilities have facilities within the construction limits of Project 1133-09-76, but do not anticipate any conflicts and do not plan to make any adjustments to their facilities:

- **Wisconsin Public Service Corporation** (gas)

8.2. Railroad Insurance and Coordination.

A Description

Comply with standard spec 107.17 for all work affecting Wisconsin Central Ltd. property and any existing tracks.

A.1 Railroad Insurance Requirements

In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Insurance is filed in the name of Wisconsin Central Ltd. (d.b.a. Canadian National).

Notify evidence of the required coverage, and duration to Jackie Macewicz, Manager Public Works at 1625 Depot St., Stevens Point, WI, 54481. Include the following information on the insurance document:

Project: 1133-09-71

Route Name: USH 41, DePere – Suamico, Brown County

Crossing ID: 181531U

Railroad Subdivision: Fox River, Ashwaubenon Lead Track

Railroad Milepost: 238.83

A.2 Work by Railroad

The railroad will perform the work described in this section, except for work described in other special provisions and will be accomplished without cost to the contractor. None

A.3 Names and addresses of Railroad Representatives for Consultation and Coordination

Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481, TELEPHONE (715) 345-2503, FAX (715) 345-2534, email jackie.macewicz@cn.ca for consultation on railroad requirements during construction.

Contact Mary Ellen Carmody, Audit Officer, Administration Service Center, 2800 Livernois, Suite 330, Troy, MI 48083, TELEPHONE (248) 740-6227, FAX (248) 740-6036, email maryellen.carmody@cn.ca for flagging arrangements. Advise Ms. Carmody that the flagging services are to be billed at the rate for a public highway project.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

A.4 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 several weeks prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

A.5 Train Operation

Approximately two through freight trains operate daily through the construction site. Currently trains operate 3 days per week. Through freight trains operate at up to 10 mph.

B Railroad Flagging

Arrange with the railroad for the flagging of trains and safety of railroad operations if clearances specified in standard spec 107.17.1 are not maintained during construction operations. The following conditions may also warrant flagging:

Cranes swinging or handling materials or equipment within 25 feet of the centerline of any track.

Construction operations that are in proximity of power lines or railroad signal and communication lines, underground cables, fuel oil facilities or pipe lines and which might result in fire or damage to such facilities, danger to railroad operations or danger to the public in the transaction of business on railroad premises.

Excavation, tunneling, blasting, pile driving, placing, or removing cofferdams or sheeting, or similar activities might cause the railroad's tracks or buildings to be undermined, heaved out of normal level, shifted out of alignment, or otherwise impaired.

Bridge painting activities including rigging of falsework, scaffolding or similar activities within 25 feet of the centerline of any track.

Deck removal activities within 25 feet of the centerline of any track.

Pouring of bridge decks in spans over an operated track.

At any other time in railroad representative's judgment, the contractor's work or operations constitute an intrusion into the track zone and create an extraordinary hazard to railroad traffic, and at any other time when flagging protection is necessary for safety to comply with the operating rules of the railroad.

Projects with concurrent activity may require more than one flagger.

Projects with heavy contractor activity within 25 feet of the centerline of any track or unusual or heavy impact on railroad facilities will normally require a full-time flagger.

The department and railroad will monitor operations for compliance with the above flagging requirements. Violations may result in removal from railroad property until arrangements to adhere to the flagging requirements are satisfied. If the railroad imposes additional flagging requirements beyond the above flagging requirements due to the previous violations, the contractor shall bear all costs of the additional flagging requirements.

C Flagging by Railroad– Railroad Does Not Pay Flagging Costs

C.1 General

Replace paragraph (3) of standard spec 107.17.1 with the following:

Comply with the railroad's rules and regulations regarding operations on railroad right-of-way. If the railroad's chief engineering officer requires, arrange with the railroad to obtain the services of qualified railroad employees to protect railroad traffic through the work area. Bear the cost of these services and make payment directly to the railroad. Notify the appropriate railroad representative as listed in section A.3 above, in writing, at least 5 business days before starting work near a track. Provide the specific time planned to start the operations.

C.2 Rates – Canadian National (WCL, SSMBRCo, DM&IR, DWP)

The following rates, reimbursement provisions, and excluded conditions will be used to determine the contractor's cost of flagging:

\$1,000 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site;

\$1,200 daily rate (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses) for a minimum eight-hour flagging day at the job site on Saturdays, Sundays or holidays;

\$150 per hour overtime rate for all time worked before or after the eight hour flagging day.

The flagger is required to set flags each day in advance of the contractor commencing work that will require flagging. The flagger must also remove the flags each day after the completion of work that required flagging. Any time worked before or after the minimum eight-hour flagging day to set or remove flags will be billed at the overtime rate. The contractor is responsible for knowing the requirements of the railroad for arranging and terminating flagging services and for the associated costs of those services.

C.3 Reimbursement Provisions

The actual cost for flagging will be billed by the railroad. After the completion of the work requiring flagging protection as provided in section B above, the department will reimburse 50% of the cost of such services up to the rates provided above based on paid railroad invoices, except for the excluded conditions enumerated below. In the event actual flagging rates exceed the rates stated above, the department will reimburse 100% of the portion of the rate that is greater than the rates stated above.

C.4 Excluded Conditions

The department will not reimburse any of the cost for additional flagging attributable to the following:

1. Additional flagging requirements imposed by the railroad beyond the flagging requirements provided in subsection B above due to violations by the contractor.
2. Temporary construction crossings arranged for by the contractor.

The contractor shall bear all costs of the additional flagging requirements for the excluded conditions.

C.5 Payment for Flagging

Railroads may issue progressive bills. Notify the railroad when the work is completed and request a final bill from the railroad. The railroad will issue a final bill. Promptly pay railroad-flagging bills, less any charges that may be in dispute. The department will pay for flagging reimbursement under the Railroad Flagging Reimbursement administrative item. The department will withhold flagging reimbursement until any disputed charges

are resolved and the final bill is paid. No reimbursement for flagging will be made by the department if a violation of subsection B is documented.
107-034 (20110615)

8.3. Adjusting Water Valve Box, Item SPV.0060.650.

A Description

This special provision describes adjusting to finished grade all existing water main valve boxes, meeting approval of the Village of Ashwaubenon, in accordance to Village of Ashwaubenon standards.

B Materials

The valve box extensions shall be in accordance to Village of Ashwaubenon standards.

C Construction

Excavate and expose the existing water main valve box to the depth needed to adjust the valve box to grade, add or remove an extension as needed and backfill with compacted granular material in accordance to the requirements for the adjacent roadway base course construction.

D Measurement

The department will measure Adjusting Water Valve Box as each individual adjusted water valve box, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.650	Adjusting Water Valve Box	Each

Payment is full compensation for excavating; installing and adjusting the water valve boxes; adding new sections; backfilling and compaction; properly disposing of all surplus materials; and cleanup. Granular fill material used for backfilling will be considered part of Adjust Water Valve Box item, and will not be measured and paid for separately.

8.4. Adjusting Village of Ashwaubenon Sanitary Manhole Covers, Item SPV.0060.651.

A Description

This special provision describes adjusting sanitary manhole covers owned by the Village of Ashwaubenon.

B Materials

In accordance to standard spec 611.2 and the “Manhole, Inlet, and Catch Basin Adjusting Rings” special provision article.

C Construction

In accordance to standard spec 611.3, the “Manhole, Inlet, and Catch Basin Adjusting Rings” special provision article, and as follows:

Remove existing chimney seals, as necessary to adjust manhole cover.

The Village of Ashwaubenon will install new chimney seals after the manholes have been adjusted. Contact the village at (920) 492-2335 for chimney seal installation.

D Measurement

The department will measure Adjusting Village of Ashwaubenon Sanitary Manhole Covers as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.651	Adjusting Village of Ashwaubenon Sanitary Manhole Covers	Each

Payment for Adjusting Village of Ashwaubenon Sanitary Manhole Covers is full compensation for providing all required materials, exclusive of frames, grates, or lids; for removing, reinstalling and adjusting the covers, including removing the existing chimney seal; and for furnishing all labor, tools, equipment and incidentals required to complete the work.

8.5. Adjusting City of Green Bay Sanitary Manhole Covers, Item SPV.0060.652.**A Description**

This special provision describes adjusting sanitary manhole covers owned by the City of Green Bay.

B Materials

In accordance to standard spec 611.2 and the “Manhole, Inlet, and Catch Basin Adjusting Rings” special provision article.

A manhole or inlet outside of the roadway limits may be set with concrete rings.

C Construction

In accordance to standard spec 611.3, the “Manhole, Inlet, and Catch Basin Adjusting Rings” special provision article, and as follows:

Remove and reinstall existing chimney seals, as necessary to adjust manhole cover.

Use concrete rings sizes that closely match the inside and outside dimensions of the structures. If more than 4-inches of adjustment is necessary, use one concrete ring 4-inches or more in height with a maximum of one 2-inch concrete ring on top. Tie concrete rings to the structure using a minimum of two No. 4 rebars, spaced on opposite sides of the structure, when the total thickness of concrete rings is 6-inches or greater. Drill the hole for the bar to a depth of 6-inches into the top of the structure and to such a diameter as to provide a secure fit. The bar shall be of adequate length to secure the concrete rings to the structure without protruding out of the top concrete ring. Conform final casting placement to the finished grade.

Compact around each manhole after adjustment has been backfilled to prevent settling, whether rubber grade rings or concrete rings are used.

D Measurement

The department will measure Adjusting City of Green Bay Sanitary Manhole Covers as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.652	Adjusting City of Green Bay Sanitary Manhole Covers	Each

Payment for Adjusting City of Green Bay Sanitary Manhole Covers is full compensation for providing all required materials, exclusive of frames, grates, or lids; for removing, reinstalling and adjusting the covers, including removing and reinstalling the existing chimney seal; and for furnishing all labor, tools, equipment and incidentals required to complete the work.

8.6. Reconstruct Sanitary Manhole, Item SPV.0060.653.

A Description

Reconstruct sanitary manholes in accordance to the plans and specifications, standard spec 611 and, the 6th Edition Standard Specification for Sewer and Water Construction in Wisconsin.

B Materials

Furnish precast manhole sections as described in chapter 3.5.3 of the Standard Specifications for Sewer and Water Construction in Wisconsin of the height required to create a finished manhole according to plan elevations. Contractor shall verify manhole dimensions and vertical height adjustment prior to ordering materials.

Salvage and reuse manhole cone sections, frames and covers.

Furnish concrete grade rings meeting the requirements of chapter 8.39.11 of the Standard Specifications for Sewer and Water Construction in Wisconsin. Minimum thickness for concrete rings shall be 2-Inches. Butyl joint sealant shall be placed between rings.

The Village of Ashwaubenon will install new chimney seals after the manholes have been reconstructed. Contact the village at (920) 492-2335 for chimney seal installation.

C Construction

Reconstruction includes removal of the frame, cover, casting, adjusting rings and cone, installation of new barrel sections of appropriate height, reinstallation of the cone, placement of new undamaged adjusting rings, and resetting of the frame and cover. Remove existing frames, covers, castings and manhole cone sections with care to prevent damage. All joints shall be water tight at the time of construction.

Lay grade rings on a bead of flexible joint sealant. If the top of the precast riser is uneven, the engineer may require a 1 1/4" diameter flexible sealant to be used. Frames shall be placed on a 3 1/2" x 3/8" bed of flexible joint sealant.

D Measurement

The department will measure Reconstruct Sanitary Manhole by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.653	Reconstruct Sanitary Manhole	Each

Payment is full compensation for removal of existing manhole cone section, frames, covers, castings and internal chimney seal (if applicable); for furnishing and installing additional precast concrete manhole sections and steps; for furnishing all excavation and backfill; for reinstalling manhole cone section and steps; for installing adjustment rings; for disposal of surplus material, cleanup, and restoring site work; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work. No additional monies will be paid to the contractor for replacement of existing manhole cone sections due to damage caused by the contractors removal operations.

9. Clear – Demolition – Removal.

9.1. Clearing and Grubbing.

Complete work in accordance to standard spec 201 and as herein provided.

Revise standard spec 201.3 as follows:

Burning of stumps, roots, brush, waste logs and limbs, timber tops, and debris resulting from clearing and grubbing is not allowed.

9.2. Removing or Abandoning Miscellaneous Structures.

Supplement standard spec 204.3.2.2 (1) with the following:

Any mesh or reinforcement that is found in concrete pavements or other removal items is incidental to the removal bid item(s) included in the contract.

9.3. Abandoning Sewer, Item 204.0291.S.

A Description

This special provision describes abandoning existing sewer by filling it with cellular concrete according to the pertinent requirements of standard spec 204 and standard spec 501, as shown in the plans, and as hereinafter provided.

B Materials

Provide cellular concrete meeting the following specifications: 1 part cement, 1 part fly ash, 8 parts sand, or an approved equal, and water. Provide cement meeting the requirements of standard spec 501.2.1 for Type 1 Portland Cement. Provide sand meeting the requirements of standard spec 501.2.5.3 Provide water meeting the requirements of standard spec 501.2.4.

C Construction

Fill the abandoned sewer pipe with cellular concrete as directed by the engineer. In the event that the sewer cannot be completely filled from existing manholes, tap the sewer where necessary and fill from these locations.

D Measurement

The department will measure Abandoning Sewer in volume by the cubic yard according to standard spec 109.1.3.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
204.0291.S	Abandoning Sewer	CY

Payment is full compensation for furnishing all materials and excavating and backfilling where necessary.

204-050 (20080902)

9.4. Removing Drain Slotted Vane, Item 204.9090.S.01.

A Description

This special provision describes Removing Drain Slotted Vane in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement

The department will measure Removing Drain Slotted Vane in linear feet, acceptably completed.

E Payment

Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9090.S.01	Removing Drain Slotted Vane	LF
204-025 (20041005)		

9.5. Salvaged Rail and Salvaged Guardrail End Treatments.

Salvage Rail and Guardrail End Treatments in accordance to the pertinent requirements of standard spec 614 and as hereinafter provided.

Salvage all rails, end treatments, posts, hardware, and all connections for Brown County.

Give one week advance notice to Brown County before starting the guard rail salvage work to coordinate pickup arrangements. Notify Randy Braun at (920) 662-2169 prior to needing the stockpiled material removed.

Remove and properly dispose of all other material from the right-of-way.

Replace standard spec 614.5 (11) with the following:

Payment for the salvaged bid items is full compensation for removing and stockpiling reusable rail, guardrail end treatments, posts, hardware, and all connections and components; for replacing contractor-damaged material remaining in place; and for excavating, restoring the site, and disposing of damaged and surplus material.
(NER41-20100426)

9.6. Remove Traffic Signals CTH AAA and Allied Street, Item SPV.0105.452; USH 41 and CTH AAA, Item SPV.0105.453.

A Description

This work shall consist of removing the existing traffic signal equipment from the intersections of CTH AAA (Waube Lane) and Allied Street and USH 41 and CTH AAA (Waube Lane/Oneida Street), salvaging specific traffic signal equipment and transporting the salvaged traffic signal equipment to WisDOT NE Region as shown in the plans and in accordance to the pertinent provisions of section 204 of the standard specifications and as hereinafter provided. For the CTH AAA and Allied Street intersection, specific removal items are noted in the plan.

B (Vacant)

C Construction

CTH AAA and Allied Street: Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed.

Notify the Brown Counties Electrical Field Unit at (920) 609-4702 at least three working days prior to the removal of the traffic signals. Complete the removal work as soon as possible following shut down of this equipment.

The County assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, luminaires, wiring/cabling, and traffic signal mounting devices from each signal standard, arm or pole. Ensure that all access hand hole doors and all associated hardware remain intact. Dispose of the underground signal cable, internal wires and street lighting cable off the state right-of-way. Stockpile the remaining materials onsite for pick up by the county. Contact the county's Electrical Field Unit at (920) 609-4702 at least three working days prior to pick up to make arrangements.

The contractor shall remove the signal cabinet from the footing. The signal cabinet and associated signal cabinet equipment will be removed from the site by the contractor and will remain the property of the county.

USH 41 and CTH AAA: The existing traffic signal equipment shall be disconnected from the concrete bases, carefully loaded, and transported to the WisDOT NE Region facility at 944 Vanderperren Way, Green Bay, WI. All signal heads and luminaires should remain attached to the standard, pole or respective mast arm. The contractor shall conduct operations in such a manner to prevent any damage to the traffic signal equipment. The contractor shall replace or repair any equipment that was damaged during this removal and transport operation. Prior to delivering the removed equipment, the contractor shall make arrangements with the WisDOT NE Region Electrical Personnel who can be reached at (920) 492-5654 or (920) 492-5710 for delivery to the regional facility.

D Measurement

The department will measure Remove Traffic Signals (Location) as a single lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.452	Remove Traffic Signals CTH AAA and Allied Street	LS
SPV.0105.453	Remove Traffic Signals USH 41 and CTH AAA	LS

Payment is full compensation for scrapping of some materials, disposing of scrap material, removal, disassembly, and delivery to the WisDOT regional facility.

9.7. Abandoning Existing Box Culvert B-05-110, Item SPV.0105.800.

A Description

This special provision describes abandonment of existing culvert B-05-110 by furnishing and placing a controlled low strength material, providing all necessary bulk heads to seal the culvert, removing the existing endwalls, placing of fill and backfill material to restore the existing slope, installing all erosion control devices required to protect the adjacent land from the workzone, and providing for any topsoil, seed, or other finishing items.

B Materials

B.1 Controlled Low Strength Material

Provide controlled low strength backfill that consists of a designed cementitious mixture of natural or processed materials. Allowable materials include natural sand, natural gravel, produced sand, foundry sand, produced gravel, fly ash, Portland cement, and other broken or fragmented mineral materials. The designed mixture shall be self-leveling and shall be free of shrinkage after hardening. Design the mixture to reach a state of hardening such that it can support foot traffic in no more than 24 hours. Provide a mixture that also meets the following requirements.

Test	Method	Value
Flow (inch)	ASTM D-6103	9 min
Compressive Strength (psi)	ASTM D-6024	20-40 @ 14 days 40-80 @ 28 days 80-120 @ 90 days

Chemical admixtures to control air content and setting time are allowable. Ten days prior to placement, furnish the engineer with a design mix detailing all components and their proportions in the mix. Also, provide documentation from the supplier of the industrial byproducts that the foundry sand and fly ash used in the mixture meet the requirements for Industrial Byproducts Categories 1, 2, 3, or 4 in NR 538 of the Wisconsin Administrative Code for use as a confined geotechnical fill.

B.2 Bulk Heading

Provide all materials necessary for bulk heading in accordance to standard spec 501, 502 and standard spec 505.

B.3 Fill and Backfill Material

Provide fill material in accordance to standard spec 208 and standard spec 209.

B.4 Erosion Control and Finishing Items

Provide all erosion control devices and finishing items in accordance to the standard specifications

C Construction

Place all erosion control devices before commencing work operations.

Remove existing endwalls in accordance to standard spec 204.

Place bulkheads to seal the culvert in a manner suitable for engineer approval. Allow adequate cure time of a minimum 72 hours to prevent bulkhead failure from the lateral force of the controlled low strength backfill material. Cure time can be reduced if the engineer approves an alternative duration.

Place controlled low strength backfill material to a depth that fills the culvert to full height. Provide holes in the culvert to pump the material into the culvert, but additional verifications holes are necessary to identify fill material has reached the culvert ceiling. These verification holes are required in all 3 cells and at each end of the culvert. Proportion and mix materials to produce a product of consistent texture and flow characteristics. The engineer may reject any materials exhibiting a substantial change in properties, appearance, or composition.

If the official Weather Bureau forecast for the construction site predicts temperatures at or below freezing within the next 72 hours after placement of controlled low strength backfill, do not place material.

No controlled low strength backfill shall be allowed to enter any stream, lake, or sewer system. The contractor shall be responsible for any clean up or remediation costs resulting from such occurrences.

Restore the slope to its existing condition by covering the exposed bulkheads to the existing slopes. Provide topsoil, seed, mulch, and any other incidental finishing items to return the worksite to its previous condition.

D Measurement

The department will measure Abandoning Existing Box Culvert C-05-0020 as a single lump sum unit of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.800	Abandoning Existing Box Culvert B-05-110	LS

Payment is full compensation for furnishing and installing all items necessary to abandoning the pipe, including all bulkhead materials, erosion control items, fill material, backfill material, removal of the existing endwalls, all restoration and finishing items, designing the controlled low strength material; supplying all materials; preparing the proportioned mix; hauling it to the construction site; and for placing the material.

10. Earthwork.

10.1. Removing Old Structure.

Replace standard spec 203.1(1) with the following:

This section describes wholly or partially removing or closing existing culverts, bridges and sign structures, disposing of the resulting materials, or if required, salvaging and storing designated materials.

Add the following to standard spec 203.3:

Remove existing sign structures in accordance to standard spec 638.3.6.

Replace standard spec 203.4(2) with the following:

The department will measure the Removing Old Structure bid items as a single lump sum unit for each culvert, bridge or sign structure removal designated in the proposal and acceptably completed.

10.2. Embankment Construction.

Replace standard spec 205.3.2(4) with the following:

If placing embankment on side slopes 10-feet high or higher and steeper than one vertical to 3 horizontal, cut a minimum 2 foot horizontal bench into the existing embankment every 4 feet of vertical fill height.

10.3. Borrow.

Replace standard spec 208.1(1) with the following:

This section describes constructing embankments and other portions of the work consistent with the earthwork summary and defines the contract requirements for borrow material if required by the plans or if the contractor elects to utilize off-site material to complete the roadway embankments.

Delete standard spec 208.2.2(2).

Add the following to standard spec 208.3:

The contractor shall be responsible for complying with all permit requirements in obtaining borrow materials.

Replace standard spec 208.4 with the following:

The department will not measure borrow.

Replace standard spec 208.5 with the following:

The department will not pay directly for work specified under this section. This work is incidental to the Roadway Embankment bid item.

10.4. Preparing the Foundation.

Add the following to standard spec 211.3.1:

The contractor shall plan construction activities such that the earth subgrade is covered by the roadway base in a timely manner upon completion of preparation of the subgrade or as directed by the engineer. The contractor is responsible for the removal of any excess water from the subgrade as a result of rainfall events or natural drainage.

10.5. Drainage Blanket, Item SPV.0035.001.

A Description

This special provision describes furnishing and placing granular backfill within the limits shown on the plans and as directed by the engineer.

B Materials

The granular backfill for the drainage blanket shall meet the requirements of standard spec 209.2 for Granular Backfill, Grade 1.

C Construction

Place the granular backfill at the locations designated in the plan documents. Uniformly place the granular backfill to a depth of two feet, within the proposed embankment limits and leveled. Compact the granular backfill in accordance to standard spec 207.3.6.2. Repair any excessive rutting or deformations in the drainage blanket caused by construction operations as directed by the engineer.

D Measurement

The department will measure Drainage Blanket in cubic yards of volume in its final position and condition within the limits and in places designated on the plans, in the contract, or directed by the engineer, and in accordance to standard spec 209.4.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.001	Drainage Blanket	CY

Payment is full compensation for furnishing and placing all materials.

10.6. Staged Embankment Construction.

Construct the proposed embankments from Station 814+00 northbound to Station 824+00 northbound; Station 824+00 OWC to Station 838+00 OWC; Station 829+00 NB to Station 844+00 NB; Station 882+00 NB to Station 892+00 NB, and Station 895+00 NB to Station 898+00 NB in accordance to the plan, standard spec 207, and as hereinafter provided.

Some of the Embankment fills between Station 828+00 NB to Station 837+50 NB have been placed from previous contracts. The contractor shall follow the recommended phases within each stage as outlined in these special provisions for the remaining Embankment fills.

The embankment fill shall be placed to the extent of the proposed side slopes.

The control and placement of embankment fill will be based on the results of monitoring geotechnical instrumentation in the field. Install the vibrating wire piezometer instrumentation system and settlement system after the installation of the strip drains and drainage blanket (by others) and will require a minimum of 5 working days at the project site for installation of the piezometers and settlement system prior to the construction of the temporary roadway construction and prior to the construction of the first embankment lift within each designated area.

Each Stage of construction shall consist of phases. A phase is the placement of a lift to a specified total thickness. During the first phase of embankment construction, place the lift thickness shown in the table below in layers over the drainage blanket unless directed otherwise by the engineer.

Staged Construction and Strip Drain Information						
Area	Beginning Station	Ending Station	Feature	Estimated Settlement	Lift Thickness	Tip Elevation of Wick Drains
USH 41 Parkview/Oneida						
A	814+00 NB	821+50 NB	Embankment and R-05-206	3 inches – 18 inches	15 feet	567 feet +/-
B	822+00 NB	824+00 NB	Embankment and R-05-207	6 inches – 18 inches	15 feet	575 feet +/-
C	824+00 OWC	838+00 OWC	R-05-207	6 inches – 18 inches	15 feet	570 feet +/-
D	829+00 NB	837+00 NB	Embankment and R-05-208	2 inches – 5 inches	15 feet	570 feet +/-
D	833+00 NB	837+50 NB	Embankment and Pond #8	3 inches – 6 inches	10 feet	568 feet +/-
E	839+00 NB	844+00 NB	Embankment and R-05-209	2 inches – 4 inches	15 feet	570 feet +/-
F	882+00 NB	888+00 NB	Embankment	NA	NA	NA
G	889+00 NB	892+00 NB	Embankment	NA	NA	NA
H	895+00 NB	898+00 NB	Embankment	NA	NA	NA
I	922+00 NB	931+00 NB	Embankment	NA	NA	NA
J	822+00 SB	830+00 SB	Embankment and R-05-207	3 inches – 6 inches	15 feet	575 feet +/-
Notes: NA Not Applicable Preboring required for wick drains to penetrate embankment soils.						

Construct and compact the fill in accordance to standard spec 207.3.6.2. Do not place the next embankment construction phase until instrumentation indicates that excess pore water pressures have been significantly dissipated and significant consolidation of the underlying soft soils has occurred. If these conditions have not occurred within 3 months, site conditions will be re-assessed and embankment construction procedures may be revised.

After the approval of the engineer, the next and subsequent phases of embankment construction can begin. Place a maximum amount of lift thickness shown in the table above during any phase of embankment construction.

Subsequent embankment construction phases may not be placed until excess pore water pressures have been significantly dissipated and the underlying soft soils have achieved a significant portion of their anticipated consolidation under the weight of the present embankment construction phase. Each phase should be constructed and compacted per standard spec 207.3.6.2.

The engineer may stop embankment construction operations at any time if instrumentation monitoring indicates impending movement or instability of the embankment fill.

Cooperate with the department and its representatives in the monitoring and protection of the geotechnical instrumentation in the embankment. Conduct construction activities such that the department has reasonable access to the terminal boxes and other geotechnical instrumentation. Take all necessary precautions to ensure that all geotechnical instrumentation is not damaged, displaced, or misaligned by contractor activities. Furthermore if a geotechnical instrument is damaged by construction operations, the contractor shall pay for the repair of the geotechnical instrument, or if necessary, the replacement and installation of a new geotechnical instrument.

Do not use excavated organic material for any portion of the embankment fill except as topsoil for landscaping purposes.

10.7. Roadway Excavation.

Add the following to standard spec 205.5.2(1s:

Provide the department with an earth flow diagram within 30 calendar days of receiving the contract Notice to Proceed.

Identify all excavation required for the project, shrinkage and swell factors, anticipated material available for embankment if stockpiling or off-site disposal is required, and location of material to be placed in embankment on the earth flow diagrams.

Upon acceptance of the earth flow diagram by the department, the department will include the earth flow diagram with the Bid Escrow Documentation.

10.8. Roadway Embankment, Item SPV.0035. 010.

Perform work according to standard spec 207 and as hereinafter provided.

Replace standard spec 207.1(1) with the following:

This section describes placing in embankments and in miscellaneous backfills, material obtained under the bid items in the roadway and drainage excavation or excavation for structure sections.

Replace standard spec 207.4(1) with the following:

The department will measure roadway embankment by the cubic yard acceptably completed in its final location using the method of average end areas, with no correction for curvature or settlement, except as follows:

The engineer and contractor mutually agree to an alternative volume calculation method;

The method of average end areas is not feasible;

Other methods are specified herein standard spec 207.4.

If it is not possible to compute volumes of the various classes of roadway and drainage embankment by the method of average end areas due to erratic location of isolated deposits, the department may compute the volumes by alternative methods involving three-dimensional measurements.

The department will not measure embankment material beyond the limits of the required slopes.

Replace standard spec 207.5(1) with the following:

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.010	Roadway Embankment	CY

The work includes forming, compacting, shaping, sloping, trimming, finishing, maintaining the embankments, and all other incidental work required under this section.

10.9. Vibrating Wire Piezometer Instrumentation System Delivered, Item SPV.0060.004.

A Description

This special provision describes furnishing and delivering a vibrating wire piezometer instrumentation system a minimum of 21 days prior to start of placing embankments. It also includes providing a technical assistance representative from the company to aid in piezometer installation and to provide on-site technical support. Perform all according to the plans and as provided herein.

B Materials

Materials for the vibrating wire piezometer system shall include ten vibrating wire piezometers, one data recorder, four terminal boxes, and necessary appurtenances.

Vibrating Wire Piezometers: A total of ten (10) vibrating wire piezometers shall be Geokon Model 4500S, 100 psi range (Geokon Incorporated, 48 Spencer Street, Lebanon, NH 03766, (603) 448-1562) or Slope Indicator Part Number 52611030 (Slope Indicator Company, 316 Forsyth Street, Raleigh, NC 27609-6314, (800) 929-4712), or an approved equal.

Each vibrating wire piezometer shall meet the following specifications:

Pressure Range (psi):	0-100
Over Range/Maximum Pressure:	2X rated pressure range
Resolution:	0.025% full scale (F.S.) minimum
Accuracy:	±0.1% of F.S.
Operating Temperature:	-20 °F to 150 °F
Thermal Zero Shift:	<0.05% F.S./°C or <0.04 psi/°C
Cable:	Cable: Four conductor, 20 or 22 gauge shielded cable with polyethylene jacket or an approved equal, connection between cable and instrument factory sealed (see table below for required length of cable)
Filter:	50 micron sintered stainless steel
Diameter of piezometer	0.75 inches

Provide a canvas bag, 2½-inch by 18-inch, with each piezometer.

Calibrate all piezometers at the factory. Make calibrations while pressure is both increasing and decreasing for at least two cycles, to document hysteresis throughout the maximum range of the instrument. Take readings at a minimum number of eight equal increments, and require the manufacturer to supply a calibration curve with data points clearly indicated, and a tabulation of the data. Use the data recorder that is to be supplied under this item number during the factory calibrations. Make readings at a sufficient number of different temperatures which range from -20 °F to 120 °F to provide a calibration curve, and substantiate it, indicating the effect of temperature change on the instruments. Mark each piezometer with a unique identification number.

Signal cables and mechanical waterproof seals between the cable and the piezometer for each of the vibrating wire piezometers shall be factory installed. No splices shall be allowed. All cables shall be terminated with connectors compatible with terminal boxes furnished under this item. The required cable lengths shall be determined to extend from the tip of the piezometers to the ground level to the location of the readout box.

USH 41 Parkview/Oneida Piezometers				
Area	Feature	Station	Offset	Estimated Tip Elev.
A	R-05-206	821+00	85' right of USH 41 NB RL	585 feet
A	R-05-206	821+00	85' right of USH 41 NB RL	575 feet
B	R-05-207	822+26	75' right of USH 41 NB RL	590 feet
B	R-05-207	822+26	75' right of USH 41 NB RL	580 feet
C	R-05-207	829+00	60' right of OWC RL	590 feet
C	R-05-207	829+00	60' right of OWC RL	580 feet
D	R-05-208	837+27	75' right of USH 41 NB RL	590 feet
D	R-05-208	837+27	75' right of USH 41 NB RL	580 feet
E	R-05-209	839+45	72' right of USH 41 NB RL	590 feet
E	R-05-209	839+45	72' right of USH 41 NB RL	580 feet

Data Recorder: The data recorder shall include a battery charger, adaptors, and cables necessary for field operation, and the computer software required for downloading the data to an IBM compatible personal computer. The software shall also be capable of generating reports and annotated graphs from the data. Acceptable readout and data loggers include Geokon Model GK-403 (Portable Readout Unit and SPLIT Data Formatting Software), Slope Indicator Part Numbers 52620900 AND 52620920 (VS Datamate and Datamate Manager Software), or an approved equal.

The data recorder shall have waterproof seals incorporated into its face plate, switches and input connectors. It shall have a backup power source or battery which will keep data secure if the main battery should become discharged. It shall have the capacity of manually recording a minimum of 250 readings, and of automatically recording data at any interval specified and entering a low power mode between the readings taken. It shall have the electronic transfer capability of linking itself and a personal computer for data transfer. Include an interface cable. It shall be able to do the following: display battery charge, display internal temperature and humidity, set date and time, display all data in its memory, and adjust viewing angle of display. It shall have a backlit display. It shall be able to display pore water pressure readings in standard English and metric units of pressure, and temperature readings in degrees Celsius and degrees Fahrenheit.

The data recorder shall also meet the following specifications:

Temperature Range	Fully operable from -4 °F to 120 °F
Excitation Range	450 – 6000 Hz
Resolution	0.01% Full Scale
Weight	12 lb

Five Terminal Boxes: Acceptable terminal boxes shall be Geokon Terminal Box Model 4999, Slope Indicator Terminal Box 57711600, or an approved equal. The terminal box enclosures shall be constructed of baked enamel coated steel or fibreglass, and shall be waterproof. Each box shall handle a minimum of six 4-conductor sensors. Cable entries on each box shall have watertight cable glands fixed in place with strain reliefs. The boxes shall be modified as necessary to permit connection to the data recorder. Protect each terminal box from lightening damage by installing at the factory surge arrestors, and with a ground rod and grounding cable.

Furnish the engineer for approval, a minimum of 14 days prior to delivery of the vibrating wire piezometer instrumentation system to the site, the following:

- Name and phone number of manufacturer's designated technical assistance representative.
- Manufacturer's certifications for all components of the system.
- Factory calibration certifications for all components of the system.
- Factory quality assurance checklist.
- Factory preshipment inspection checklist.
- Factory warranties for all components of the system.

Shipping documents and shipping schedule.

Unique instrument identification numbers for all components.

Instruction manuals for each component of the system supplied by the manufacturer.

The location of the readout boxes for the individual areas.

Include a comprehensive instruction manual with the vibrating wire piezometer instrumentation system. It shall contain the following: (1) *theory of operation*, i.e. the basic measuring principle of the instrument with appropriate illustrations, limitations of the instrument, factors which may affect measurement uncertainty, and a specification sheet; (2) *calibration procedures*, i.e. step-by-step acceptance test procedures to ensure correct functioning when the instrument is first received, procedures for performing calibration checks, and procedures for regular calibration of the readout and data logger; (3) *installation procedures*, i.e. step-by-step procedure for installation, with illustrations of the system and its components, showing correct juxtaposition when installed, and statement of all factors that should be recorded during installation for later use during data evaluation; (4) *maintenance procedures and trouble-shooting guide* with names, addresses, and telephone numbers of instrument service representatives; (5) *data collection procedures*, i.e. cautions pertaining to personnel and equipment, procedure for obtaining initial reading, procedure for obtaining readings subsequent to initial readings, listing of equipment and tools required during instrument reading, a field data sheet, and a sample completed field data sheet; and (6) *data processing, presentation, and interpretation procedures*, i.e. data calculation sheet, step-by-step calculation procedure, instruction manual(s) for software supplied by the manufacturer, sample data calculations, alternative methods of plotting the data, sample data plots, and notes on data interpretation.

There shall be a product warranty on all parts of the vibrating wire piezometer instrumentation system of a minimum of one year from the date of delivery to the department against defects in materials and workmanship.

All components of the Vibrating Wire Piezometer Instrumentation System shall be made by the same manufacturer. Each component of the Vibrating Wire Piezometer Instrumentation System shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the engineer. The term *approved equal* shall be understood to indicate that the *equal* product shall meet all of the specifications, and shall be the same or superior to the products named previously in the specifications in function, performance, accuracy, tolerances, and general configuration. The engineer shall make the final determination if the approved equal is acceptable. Components which do not meet the requirements of the specifications shall be unacceptable and will be rejected by the engineer. The engineer reserves the right to prohibit delivery of any component until certifications provided by the manufacturer, and supplied by the contractor, indicates full compliance with the specifications.

Technical Support: Make available an on-site technical assistance representative from the manufacturer which supplies the Vibrating Wire Piezometer Instrumentation System to instruct the contractor on how to install the first vibrating wire piezometer installed on the project. Also make available on-site the technical assistance representative to assist in the final connections of the vibrating wire piezometer cables to the terminal boxes during construction operations and to assist in initial calibration and reading of the instrumentation.

Notify the Foundation and Pavement Unit of the delivery of the vibrating wire piezometer instrumentation system a minimum of 14 days prior to its arrival. Deliver the Vibrating Wire Piezometer Instrumentation System to the Bureau of Highway Construction, c/o Foundation and Pavement Unit, 3502 Kinsman Boulevard, Madison, WI 53704. Upon delivery, the data recorder with its appurtenances becomes the property of the department. Upon completion of the project, ownership of the data recorder with its appurtenances becomes the property of the Foundation and Pavement Unit Section.

C (Vacant)

D Measurement

The department will measure Vibrating Wire Piezometer Instrumentation System Delivered as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.004	Vibrating Wire Piezometer Instrumentation System Delivered	Each

Payment is full compensation for furnishing and delivering all components of the Vibrating Wire Piezometer Instrumentation System for the project, and for providing technical support at the project site.

10.10. Settlement Gauge, Item SPV.0060.005.

A Description

This special provision describes furnishing and installing settlement gauges and extensions in accordance to the details shown in the plans and as herein provided.

B (Vacant)

C Construction

Install the settlement gauges at field locations as determined by the engineer and under the supervision of the department's Foundation and Pavement Unit and at the following locations:

USH 41 Parkview/Oneida Settlement Gauge				
Area	Feature	Station	Offset	Comments
A	R-05-206	816+00	74' right of USH 41 NB RL	----
A	R-05-206	819+00	86' right of USH 41 NB RL	----
B	R-05-207	823+50	95' right of USH 41 NB RL	----
C	R-05-207	826+00	25' right of OWC RL	----
C	R-05-207	829+00	25' right of OWC RL	----
C	R-05-207	832+00	45' right of OWC RL	----
C	R-05-207	835+00	28' right of OWC RL	----
D	Embankment	830+00	80' right of USH 41 NB RL	Installed by Others
D	Embankment	833+00	83' right of USH 41 NB RL	Installed by Others
D	Embankment	835+00	84' right of USH 41 NB RL	Installed by Others
E	Embankment	842+00	84' right of USH 41 NB RL	----
J	Embankment	824+00	150' left of USH 41 NB RL	----
J	Embankment	826+00	170' left of USH 41 NB RL	----

The bottom of the plate shall be level and riser pipe shall be vertical. Mortar may be used to level the 2-foot x 2-foot x 0.5-inch thick plate. The elevation of the plate shall be determined by the engineer and the lengths of any added riser pipe(s) shall be accurately measured and recorded. Embankment and retaining wall material in the vicinity of the riser pipe shall be compacted to specification requirements, taking precautions to keep alignment of the riser and the cover pipes vertical at all times.

Take all necessary precautions to ensure that the existing (installed by others) and new settlement gauges are not damaged, displaced, or misaligned. If a gauge is damaged, it shall immediately be repaired or replaced by the contractor at his/her own expense. contractor to protect and maintain all settlement gauges installed as part of this contract.

D Measurement

The department will measure Settlement Gauge as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.005	Settlement Gauge	Each

Payment is full compensation for furnishing and placing all materials including extensions; and for excavation.

10.11. Strip Drains, Item SPV.0090.006; Pre-Bored Strip Drains, Item SPV.0090.007.

A Description

This special provision describes furnishing and installing prefabricated strip drains after topsoil has been removed and ground has been graded for positive drainage. Perform all work according to the plans and as provided herein.

B Materials

The strip drains shall be prefabricated and consist of a plastic or polyethylene core wrapped in a filter geotextile fabric. They shall be ALIDRAIN, AMER-DRAIN Type 407, MEBRA-DRAIN or an approved equal. The core shall be fabricated with suitable drainage channels.

Every component of the strip drains shall be insect, rodent, mildew, and rot resistant.

Furnish the strip drains in a wrapping which will protect them from abrasion due to shipping and hauling. The strip drains are to be kept dry until installed.

Clearly mark the strip drain rolls showing the type of vertical drain.

Furnish the engineer for approval manufacturer's certifications and strip drain samples a minimum of 14 days prior to delivery of the strip drains to the site. Only one type of strip drain, i.e. strip drain made by the same manufacturer and of the same dimensions and inplane flow rate, is to be used for the entire project. The delivered strip drains shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the engineer.

C Construction

Install strip drains with approved equipment of a type which will cause a minimum disturbance of the subsoil during the installation operation. Install the strip drain using a mandrel or sleeve which completely encloses the strip drain, thereby protecting it from tears, cuts, and abrasions during installation. The mandrel or sleeve shall be of minimal cross-sectional area.

Submit details of the sequence and method of strip drain installation to the engineer by the contractor a minimum of 14 days prior to the installation of the vertical drains for the engineer's approval. Approval by the engineer will not relieve the contractor of his responsibility to install the strip drains in accordance to these specifications.

Prior to the installation of strip drains within the designated areas, demonstrate that his equipment, installation method, and materials produce a satisfactory installation in accordance to these specifications. For this purpose the contractor shall be required to install trial strip drains at locations designated by the engineer. Payment will be at the unit price per linear foot for the strip drains. Payments will not be made for installing unsatisfactory trial strip drains.

At locations shown on the plan the pre-boring is required for strip drain installation.

Approval by the engineer of the method and equipment used to install the trial drains shall not constitute acceptance of the method for the remainder of the project. If at any time the engineer considers that the method of installation does not produce a satisfactory drain, the contractor shall alter his method or equipment as necessary to comply with these specifications.

Strip drains shall be located, numbered, and staked out by the contractor. Do not vary the locations of drains by more than 6 inches from the locations indicated in the plan documents or as directed by the engineer.

Force vertically the mandrel with the strip drain inside into the ground to the depth shown on the contract documents. Retract the mandrel leaving the strip drain in place to function as a vertical drain. Cut the strip drain neatly at its upper end with a 12 inch length of drain material extending above the drainage blanket.

Re-level the surface of the granular sub-base course disturbed by strip drain installation equipment. Regrading will not be allowed. Repair any excessive rutting or deformations in the drainage blanket as directed by the engineer at no additional cost to the department.

Splices or connections in the strip drain material will not be allowed.

Carefully check the equipment for plumbness prior to advancing each strip drain and must not deviate more than 1 inch per foot from the vertical.

When obstructions are encountered below the working surface which in the opinion of the engineer cannot be penetrated using normal and accepted procedures, complete the drain from the elevation of the obstruction to the working surface. At the direction of the engineer, install a new drain within 18 inches from the obstructed drain. Pay contractor for all obstructed drains at the contract unit price unless the drain is improperly installed.

Observe precautions necessary for protection of instrumentation devices. After instrumentation devices have been installed, replace at his cost any equipment that is damaged or become unreliable due to his construction operations.

Strip drains that are out of their proper location by more than 6 inches, strip drains that are damaged during construction or strip drains that are improperly installed shall be rejected by the engineer and no compensation will be allowed for any materials furnished or for any work performed on such drains.

Supply the engineer with a suitable means of making a linear determination of the quantity of strip drain material used at each strip drain location. During installation of the strip drain, provide suitable means of determining the depth of the strip drain.

Prior to installing strip drains adjacent to utility corridors designated in the plans, contact the engineer to have utilities within said corridors GPS located by the department. Do not install strip drains within five feet of any underground utility.

D Measurement

The department will measure Strip Drains and Pre-Bored Strip Drains by the linear foot for the full length of strip drain installed, acceptably completed. The contractor will not be paid for any more than an 18 inch length of strip drain extending above the drainage blanket.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.006	Strip Drains	LF
SPV.0090.007	Pre-Bored Strip Drains	LF

Payment is full compensation for the cost of furnishing the strip drain material, predrilling, installation, and altering of the equipment and methods of installation in order to produce the required end result in accordance to the plans and specifications. No payment will be made for unacceptable strip drains or for any delays or expense incurred through changes necessitated by improper or unacceptable material or equipment.

10.12. Settlement System, Item SPV.0090.008.

A Description

This special provision describes furnishing and installing settlement system consisting of corrugated plastic pipe, steel sensing rings, inclinometer casing

B Materials

Provide 3-inch ID corrugated polyethylene pipe with stainless steel sensing rings.

Provide 2.75-inch inclinometer casing for inner rigid pipe.

Provide caps, couplings, and other installation accessories per manufacturer's recommendations.

Furnish readout system consisting of a sensing probe, cable, reel, with integral voltmeter, buzzer, and battery.

Cable should be laser-marked for durability, marked to 0.01ft graduations.

Probe diameter 1.7 inches.

Uses standard AA batteries.

C Construction

Place 3-inch ID corrugated polyethylene pipe, with stainless steel sensing rings spaced vertically five feet apart. Install the casing into a bored hole to the depths shown on the plans or specifications. Grout the hole as per manufactures recommendations.

Attach sensing rings to casing with mastic sealing tape and vinyl tape as per manufacturer's recommendations.

Install caps, couplings, and other installation accessories per manufacturer's recommendations.

USH 41 Parkview/Oneida Settlement System				
Area	Feature	Station	Offset	Estimated Tip Elev.
A	R-05-206	821+00	95' right of USH 41 NB RL	570 feet
B	R-05-207	822+26	85' right of USH 41 NB RL	570 feet
D	R-05-208	837+22	80' right of USH 41 NB RL	570 feet
E	R-05-209	839+50	80' right of USH 41 NB RL	570 feet

D Measurement

The department will measure Settlement System by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.008	Settlement System	LF

Payment is full compensation for furnishing and delivering all components of the Settlement System for the project.

10.13. Geotechnical Instrumentation, Item SPV.0105.006.

A Description

A.1 General

This special provision describes installing geotechnical instrumentation and collecting data for the project for the purpose of monitoring ground movement in the vicinity of structures and nearby adjacent property and movement during construction of the retaining wall and embankments. The instrumentation program specified herein and shown on the plans is not intended to be used to ensure the safety of the work.

Install the required instrumentation and collecting the required ground monitoring data as specified herein. The instrumentation program required by this article does not relieve the contractor of responsibility for providing additional instrumentation and monitoring if, in the contractor's opinion, such additional instrumentation and monitoring are necessary to accomplish the work.

This article covers the work necessary to furnish and install geotechnical instrumentation, maintaining installed instruments, taking initial and subsequent instrument readings, and removal and abandonment, if necessary, of the instruments after construction.

A.2 Submittals

Submit the following specific information for information only, at least 30 days prior to the start of instrument installation, except submit copies of DNR forms as soon as possible after instruments are installed or abandoned:

1. Submit qualifications and experience of instrumentation specialists and personnel.
2. Instrumentation shop drawings detailing locations, depths based on general information shown on the plans, type, details, and other pertinent information showing the installation details for each type of instrumentation required.
3. Drawing that indicates the locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation.
4. Description of methods for installing and protecting all instruments.
5. Schedule of instrument installation related to significant activities or milestones in the overall project.
6. Following installation of the instruments and prior to the start of construction, submit as-built shop drawings showing the exact installed location, the instrument identification number, the instrument type, the installation date and time, the heading station or portal on the installation date, when applicable, and the anchor or tip elevation and instrument length, when applicable, and installed locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation. Include details of installed instruments, accessories, and protective measures including all dimensions and materials used.
7. Manufacturer's literature describing installation, operation, and maintenance procedures for all instruments, materials, readout units, and accessories.
8. Drilling and installation logs for instrumentation installations prepared by the instrumentation specialist.
9. Submit for each instrument to be installed, as applicable, a certificate issued by the instrument's manufacturer stating that the manufacturer has inspected and tested each instrument before it leaves the factory to see that the instrument is working correctly and has no defects or missing parts.
10. Submit permits and consents for drilling holes from ground surface and conducting monitoring activities.
11. Plans for geotechnical instrumentation to be installed at contractor's option.
12. Copies of completed DNR abandonment forms for subsurface settlement markers, settlement system and vibrating wire piezometers.

A.2 Definitions and Locations

Open Ground: Ground without any above- or below-grade facilities, paved or unpaved roads, and utilities within a 25-foot horizontal radius.

Piezometer (PZ): A vibrating wire piezometer constructed in a borehole.

Area	Feature	Station	Offset	Estimated Tip Elev.
A	R-05-206	821+00	85' right of USH 41 NB RL	585 feet
A	R-05-206	821+00	85' right of USH 41 NB RL	575 feet
B	R-05-207	822+26	75' right of USH 41 NB RL	590 feet
B	R-05-207	822+26	75' right of USH 41 NB RL	580 feet
C	R-05-207	829+00	60' right of OWC RL	590 feet
C	R-05-207	829+00	60' right of OWC RL	580 feet
D	R-05-208	837+27	75' right of USH 41 NB RL	590 feet
D	R-05-208	837+27	75' right of USH 41 NB RL	580 feet
E	R-05-209	839+45	72' right of USH 41 NB RL	590 feet
E	R-05-209	839+45	72' right of USH 41 NB RL	580 feet

Readout Post (ROP): Posts with the readout box, positioned with agreement between the contractor and engineer.

Slope Inclinometers (SI): The department will install slope inclinometers at the following locations. Do not damage slope inclinometers. Contractor at his own expense will replace any damaged slope inclinometers.

Area	Feature	Station	Offset	Estimated Tip Elev.
A	R-05-206	821+20	95' right of USH 41 NB RL	555 feet
B	R-05-207	822+06	85' right of USH 41 NB RL	560 feet
D	R-05-208	837+32	80' right of USH 41 NB RL	560 feet
E	R-05-209	839+35	82' right of USH 41 NB RL	560 feet

Structure Settlement Marker (SSM): A readily identifiable existing feature or new paint marking on an the retaining wall; or an inscribed marking, approved surveyor's nail, or brass or stainless steel rod (pin) installed onto a manhole, vault, or other similar structure at predetermined locations to measure vertical elevation changes of a facility or structural element.

Area	Feature	Station	Offset
A	R-05-206	816+00	110' right of USH 41 NB RL
A	R-05-206	819+00	128' right of USH 41 NB RL
A	R-05-206	821+10	95' right of USH 41 NB RL
A	R-05-206	821+10	On USH 41 NB RL
A	R-05-206	821+10	60' left of USH 41 NB RL
B	R-05-207	822+16	85' right of USH 41 NB RL
B	R-05-207	822+16	On USH 41 NB RL
B	R-05-207	822+16	60' left of USH 41 NB RL
B	R-05-207	823+50	162' left of USH 41 NB RL
C	R-05-207	826+00	80' right of OWC RL
C	R-05-207	829+00	65' right of OWC RL

Area	Feature	Station	Offset
C	R-05-207	832+00	67' right of OWC RL
D	R-05-208	837+37	75' right of USH 41 NB RL
D	R-05-208	836+91	On USH 41 NB RL
D	R-05-208	836+47	60' left of USH 41 NB RL
E	R-05-209	839+40	77' right of USH 41 NB RL
E	R-05-209	838+95	On USH 41 NB RL
E	R-05-209	838+60	60' left of USH 41 NB RL

Settlement System (SS): Install and monitor as per the special provisions for this project.

A.4 Quality Assurance

A.4.1 General

Notify the engineer at least 24 hours prior to all instrumentation installation operations so that the engineer may monitor the installation work.

Each instrument specified herein shall be the product of an acceptable manufacturer currently engaged in manufacturing geotechnical instrumentation hardware of the specified types.

A.4.2 Personnel Qualifications

Qualified technicians with a minimum of two years experience in the installation of geotechnical instrumentation similar to those specified herein.

Instrumentation Specialist: A professional civil or geotechnical engineer or engineering geologist, with a minimum of five years experience in the installation of instrumentation specified herein, shall prepare instrumentation shop drawings and supervise and direct technicians and be responsible for instrument installation required. The instrumentation specialist shall be physically present at the installation sites to supervise the installations.

A.4.3 Control Points

Surveys for monitoring geotechnical instrumentation shall be referenced to the same control points and benchmarks established for setting out the work. Control points shall be tied to benchmarks and other monuments outside of the zone of ground movements that might result from underground excavations.

A.4.4 Tolerances

SSMs, (SS) and PZs shall be installed within 12 inches of the horizontal locations indicated in this special provision or approved shop drawings.

Should actual field conditions prohibit installation at the locations and elevations indicated on the plans, prior acceptance shall be obtained from the engineer for new instrument locations and elevations.

A.4.5 Project Conditions

Obtain necessary permits for the installation of monitoring systems.

Provide the engineer and the department access to the instruments at all times.

All PZs shall be protected from vandalism or other accidental damage.

B Materials

B.1 Protection

Provide a protection cover for readout post.

B.2 Filter Pack

Filter pack shall be clean natural silica sand; graded such that all of the material passes the No. 4 sieve and is retained on the No. 30 sieve.

B.3 Filter Pack Seal

Filter pack seal shall be clean natural silica sand; graded such that all of the material passes the No. 10 sieve and is retained on the No. 40 sieve.

B.4 Bentonite Seal

Bentonite pellets used to form bentonite seals shall be 3/8-inch diameter compressed pellets made from high swelling montmorillonite.

B.5 Grout

Grout mixes for each instrument type are specified herein.

B.6 Piezometers (PZ)

The vibrating wire piezometer cable will run to the cable box in a trench backfilled with granular backfill.

B.7 Structure Settlement Markers (SSM)

Settlement markers on retaining walls shall consist of a 3/16-inch diameter brass or stainless steel rod, 2 inches in length or longer, epoxy grouted into a 1/4-inch diameter hole drilled into the retaining wall. The exposed end of the rod shall have no sharp edges.

C Construction

C.1 General

Instrumentation shall be installed at the locations indicated on this special provision or approved shop drawings, and as approved by the engineer. The piezometer shall be installed after wick drain and drainage blanket construction (by others) excavation of the retaining wall is completed. All instrumentation shall be installed under the direct supervision of the contractor's instrumentation specialist.

Locate conduits and underground utilities in all areas where borings are to be drilled and instruments installed. Instrument locations shall be modified, as approved by the engineer, to avoid interference with the existing conduits and utilities. Repair damage to

existing utilities resulting from instrument installations at no additional cost to the department.

Geotechnical instrumentation shall be installed and baseline surveys or initial readings completed before commencing any filling work for the retaining wall and embankment. A qualified instrumentation specialist shall install the instrumentation as shown on the project plans and as specified herein. The instrumentation specialist shall have documented experience as set forth in the subsection, Quality Assurance.

An as-installed position survey shall be conducted to determine the horizontal and vertical positions of all instruments in accordance to the requirements herein. Furnish the engineer with a copy of the results within 3-days of field survey data acquisition.

C.2 Review of Instrumentation Plan

The instrumentation plan specified herein and shown on the plans may be modified by the engineer prior to installation, to suit the contractor's means and methods of construction. Prior to ordering materials or installation of instruments, confer with the engineer as to the suitability of the planned instruments and locations, regarding proximity to excavations and compatibility with the means and methods of excavation, ground support and groundwater control.

Replace, at no cost to the department, instrumentation in place that becomes inaccessible or unreadable as a result of the contractor's means and methods of construction or changes in the contractor's means and methods of construction that could have been anticipated by the contractor prior to installation. The locations of replacement instruments shall be jointly determined by the engineer and contractor.

C.3 Installation

Complete installation and testing of each instrument located outside of excavations a minimum of 1 week prior to retaining wall and embankment construction within 100 feet of the instrument.

The anticipated general locations of instrumentation are shown in this special provision. Check instruments to be installed in borings for interference with utilities and subsurface facilities. Mark locations of all instruments in the field prior to installation acceptance of the location obtained from the engineer. Confer with the engineer in the event that conflicts with utilities occur, and changes to the planned locations become necessary.

All instruments shall be clearly marked, permanently labeled, and protected to avoid being obstructed or otherwise damaged by construction operations or the general public. Protective housing and box or vault covers shall be marked.

After installation of each instrument, survey the as-built location to define the vertical and lateral positions of the exposed parts.

C.4 Protection and Maintenance

Flag and protect all locations. Exercise care during construction so as to avoid damage to instrumentation. Repair or replace instrumentation that is damaged as a result of the contractor's operation at his expense. The engineer will determine whether repair or replacement is required. Complete the repair or replacement as soon as practical after notification by the engineer as to whether a repair or replacement is required.

Maintain exposed parts of installed instruments as necessary to ensure their availability for use for the duration of the work. The engineer will perform maintenance and calibration of readout devices.

C.5 Soil Drilling and Sampling

Hollow stem auger methods may be used to provide a casing for temporary soil support. Boreholes shall be oversized at the ground surface as necessary to accommodate installation of protective covers.

Arrange ports in the drilling bit so that there is no jetting action of the drilling fluid ahead of the bit. Use the minimum amount of fluid necessary to carry away the cuttings.

Complete soil sampling at intervals of 5.0 feet or less using standard penetration tests that are conducted in accordance to ASTM D 1586.

Store representative sample portions not retained for analytical laboratory testing in glass jars approximately 5 inches high and 1-3/4 inches in inside diameter at the mouth. Provide jars with metal screw caps containing a rubber or waxed paper gasket that forms an airtight seal when closed. Provide jars with labels large enough to identify the jar with the project number and name, boring number, sample number, depths at top and bottom of sample, blow count and recovery. Perform the laboratory testing on retained samples as deemed necessary.

Observe all soil drilling and sampling and prepare a log of the boring.

Upon completion of drilling, flush the boring with clear water prior to instrument installation.

C.6 Potholing

Potholing is defined as use of vacuum excavating or low pressure water jetting and vacuum excavating to advance holes with low risk of utility damage to confirm utility locations or to advance holes for grout pipes or geotechnical instrumentation to depths below utilities of concern. Perform potholing to at least one foot below anticipated utility bottom levels prior to installing piezometers.

C.7 Tremie Grouting

Perform tremie grouting by pumping grout through a tremie pipe positioned 3 to 5 feet above the bottom of the space to be grouted. Keep the bottom end of the tremie pipe submerged in grout as the grout level is brought up to the ground surface. The density of

the grout flowing from the space at the ground surface shall be the same as the density of the grout being placed. Allow the grout to set for a minimum 12-hour period before additional materials are placed on top of the grout. Top off any settling of grout.

C.8 Installing vibrating wire piezometer and settlement systems

Drill, sample and log borings in soil drilled for the purpose of installing vibrating wire piezometers, settlement systems and observation wells as specified here in subsection, Soil Drilling and Sampling. Drill borings using 4-inch minimum inside diameter casing and water. Drill the borings so as not to damage adjacent utilities. Drill borings for double piezometers using 6-inch minimum inside diameter casing for a minimum of the full depth of the upper vibrating wire piezometer. If use of drilling fluid is necessary to stabilize the borehole, use a biodegradable organic polymeric drilling fluid. Perform a standard penetration test at 5.0-foot depth intervals.

Install the vibrating wire piezometer tip, filter pack, filter pack seal, and annular space seal as determined by contractor's engineer or approved alternatives. The engineer will determine the depth of the sensing zone for each vibrating wire piezometer installed based upon observations of retained soil samples. Withdraw the drill casing in small increments as the backfill materials are placed, so that collapse of the borehole does not occur. Do not rotate casing during withdrawal.

Place filter pack material slowly so that bridging does not occur in the boring and to prevent the instrument from being lifted as the casing is withdrawn. Use a measuring rod or similar device to measure the height of the filter pack to ensure that the filter pack is installed over the proper depth interval. Carefully raise and lower the measuring rod while the filter pack is installed, to prevent bridging and to tamp the filter pack in place.

Place a filter pack seal above the filter pack. Place the filter pack seal in a similar manner as for filter pack material. Place a bentonite seal above the filter pack seal.

Place the annular space seal by tremie grouting. Place the grout in such a manner as to not disturb the integrity of the filter pack and seal.

For double piezometers, allow the annular space seal between the lower and upper sensing zones to set a minimum of 12 hours before the upper filter pack is placed. Alternatively, form the annular space seal by a mixture of coarse sand and grout placed in small lifts. Tamp the sand during placement. Place grout by tremie method. Take care to provide a watertight seal between the upper and lower sensing zones, and to avoid contaminating the upper sensing zone with grout.

Grout for the annular space seal for piezometers shall consist of a bentonite to cement ratio of 0.15/1 by weight, with sufficient water to allow pumping. Mix bentonite and water first.

C.10 Installing Structure Settlement Markers (SSM)

Install structure settlement markers (SSM) at the locations as shown on the plans. Permission to install markers will be obtained from the owner of the structure, by the department prior to installation. Extend the drill hole a minimum of 1 inch and a maximum of 2 inches into the structure. Extend the marker 1/2 inch from the face of the structure, or the minimum distance necessary to allow vertical positioning of an optical survey level rod. Install the marker so as not to damage the surface finish of the structure.

C.11 Schedule of Instruments Installed

For the retaining wall, install instruments of the number and type, at the location and to the depths indicated on this special provision.

C.12 Initial Readings

Record initial readings for each instrument before construction of the retaining wall and embankment. Notify the engineer when initial readings will be made, and the engineer may elect to participate or observe in taking initial readings.

Record initial vibrating wire piezometer readings a minimum of 48 hours after completing installation and testing of each piezometer. Two sets of vibrating wire piezometer readings, at least 4 hours apart will be taken. If the variation in vibrating wire piezometer readings exceeds 0.1 foot, the two sets of readings will be repeated. The arithmetic average of the two sets of vibrating wire piezometer readings that do not vary by more than 0.1 foot will be used as the initial baseline vibrating wire piezometer readings.

Record initial readings of settlement markers a minimum of 24 hours after completing each settlement marker installation. Obtain a minimum of two readings. The arithmetic average of the two initial recorded data readings will be recorded as the initial baseline reading.

C.13 Monitoring Instruments

Obtain and record data readings at regular intervals as specified herein. Submit any newly obtained recorded data to the engineer within 24 hours of obtaining new readings.

After initial readings, obtain and record subsequent regular data readings at each structure or embankment area on regular intervals based on the following criteria:

Prior to retaining wall and embankment construction:

Record a minimum of one reading per week per instrument.

During retaining wall and embankment construction:

Record one reading per instrument for every 5 feet of vertical retaining wall construction or at least every two days, whichever is the shorter interval.

After retaining wall and embankment construction is completed:

Record a minimum of one reading per instrument every two days.

Obtain weekly readings from all settlement markers for a minimum of three months after retaining wall and embankment backfill placement is complete.

Based on evaluation of the data collected, the engineer will determine if continued instrumentation readings are necessary. If additional readings are necessary, the readings will be obtained by the engineer.

C.14 Abandonment of Instrumentation

At the completion of the job or as directed by the engineer, abandon or remove instrumentation. Grout the full depth of instrument casings and pipes by tremie method or by pressure injection from the ground surface. Grout shall consist of cement and water, with the minimum amount of water necessary to allow pumping.

D Measurement

The department will measure Geotechnical Instrumentation as a complete single unit of work on a lump sum basis, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.006	Geotechnical Instrumentation	LS

Payment is full compensation for providing submittals, furnishing materials, installation, testing, protection, maintenance, replacement or repair of damaged instruments or installations, obtaining data readings, abandonment.

11. Bases, Subbases and Pavements.

11.1. QMP Base Aggregate.

A Description

A.1 General

- (1) This special provision describes contractor quality control (QC) sampling and testing for base aggregates, documenting those test results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.
- (2) Conform to standard spec 301, standard spec 305, and standard spec 310 as modified here in this special provision. Apply this special provision to material placed under all of the Base Aggregate Dense and Base Aggregate Open Graded bid items, except do not apply this special provision to material classified as reclaimed asphaltic pavement placed under the Base Aggregate Dense bid items.

- (3) Do not apply this special provision to material placed under the Aggregate Detours, Salvaged Asphaltic Pavement Base, Breaker Run, Select Crushed, Pit Run, Subbase, or Riprap bid items.
- (4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:
 1. Production and placement control and inspection.
 2. Material sampling and testing.
- (5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

A.2 Contractor Testing for Small Quantities

- (1) The department defines a small quantity, for each individual Base Aggregate bid item, as a plan quantity of 9000 tons or less of material as shown in the schedule of items under that bid item.
- (2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:
 1. The contractor need not submit a full quality control plan but shall provide an organizational chart to the engineer including names, telephone numbers, and current certifications of all persons involved in the quality control program for material under affected bid items.
 2. Divide the aggregate into uniformly sized sublots for testing as follows:

Plan Quantity	Minimum Required Testing
≤ 1500 tons	One test from production, load-out, or placement at the contractor's option ^[1]
> 1500 tons and ≤ 6000 tons	Two tests of the same type, either from production, load-out, or placement at the contractor's option ^[1]
> 6000 tons and ≤ 9000 tons	Three placement tests ^{[2][3]}

^[1] If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.

^[2] For 3-inch material, obtain samples at load-out.

^[3] If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.

4. Department verification testing is optional for quantities of 6000 tons or less.

- (3) Material represented by a subplot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

B Materials

B.1 Quality Control Plan

- (1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not place base before the engineer reviews and comments on the plan. Construct the project as that plan provides.
- (2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:
 1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
 2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
 3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
 4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
 5. Descriptions of stockpiling and hauling methods.
 6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
 7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

B.2 Personnel

- (1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation as follows:

Required Certification Level:	Sampling or Testing Roles:
Aggregate Technician IPP Aggregate Sampling Technician Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Sampling ^[1]
Aggregate Technician IPP Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Gradation Testing, Aggregate Fractured Particle Testing, Aggregate Liquid Limit and Plasticity Index Testing

^[1] Plant personnel under the direct observation of an aggregate technician certified at level one or higher may operate equipment to obtain samples.

- (2) A certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.3 Laboratory

- (1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:
Materials Management Section
3502 Kinsman Blvd.
Madison, WI 53704
Telephone: (608)-246-5388
<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

B.4 Quality Control Documentation

B.4.1 General

- (1) Submit base aggregate placement documentation to the engineer within 10 business days after completing base placement. Ensure that the submittal is complete, neatly organized, and includes applicable project records and control charts.

B.4.2 Records

- (1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

B.4.3 Control Charts

- (1) Plot gradation and fracture on the appropriate control chart as soon as test results are available. Format control charts according to CMM 8.30. Include the project number on base placement control charts. Maintain separate control charts for each base aggregate size, source or classification, and type.
- (2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:
 1. Contractor individual QC tests.
 2. Department QV tests.
 3. Department IA tests.
 4. Four-point running average of the QC tests.
- (3) Except as specified under B.8.2.1 for nonconforming QV tests, include only QC tests in the running average. The contractor may plot process control or informational tests on control charts, but do not include these tests, conforming QV tests, or IA tests in the running average.

B.5 Contractor Testing

- (1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.
- (2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.
- (3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.
- (4) The engineer may require additional sampling and testing to evaluate suspect material or the technician's sampling and testing procedures.
- (5) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one test per 10 gradation tests if the fracture running average remains above the warning limit.
- (6) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

B.6 Test Methods

B.6.1 Gradation

- (1) Test gradation using a washed analysis conforming to the following as modified in CMM 8.60:
Gradation..... AASHTO T 27
Material finer than the No. 200 sieve..... AASHTO T 11
- (2) For 3-inch base, if 3 consecutive running average points for the percent passing the No. 200 sieve are 8.5 percent or less, the contractor may use an unwashed analysis. Wash at least one sample out of 10. If a single running average for the percent passing the No. 200 sieve exceeds 8.5 percent, resume washed analyses until 3 consecutive running average points are again 8.5 percent passing or less.
- (3) Maintain a separate control chart for each sieve size specified in standard spec 305 or standard spec 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:

1. Control limits are at the upper and lower specification limits.
2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

B.6.2 Fracture

- (1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.
- (2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

B.6.3 Liquid Limit and Plasticity

- (1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.
- (2) Ensure the material conforms to the limits specified in standard spec table 301-2.

B.7 Corrective Action

B.7.1 General

- (1) Consider corrective action when the running average trends toward a warning limit. Take corrective action if an individual test exceeds the contract specification limit. Document all corrective actions both in the project records and on the appropriate control chart.

B.7.2 Placement Corrective Action

- (1) Do not blend additional material on the roadbed to correct gradation problems.
- (2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:
 1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
 2. For fracture, increase the QC testing frequency to at least one test per gradation test.

- (3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.
- (4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.
- (5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:
 1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
 2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
 3. The fracture control limit is exceeded by more than 10.0 percent.

B.8 Department Testing

B.8.1 General

- (1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

B.8.2 Verification Testing

B.8.2.1 General

- (1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.
- (2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
 1. One non-random test on the first day of placement.
 2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.

- (3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.
- (4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

B.8.3 Independent Assurance

- (1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:
 - 1. Split sample testing.
 - 2. Proficiency sample testing.
 - 3. Witnessing sampling and testing.
 - 4. Test equipment calibration checks.
 - 5. Reviewing required worksheets and control charts.
 - 6. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

B.9 Dispute Resolution

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.
- (2) Production test results, and results from other process control testing, may be considered when resolving a dispute.

- (3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C (Vacant)

D (Vacant)

E Payment

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.
- (2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

11.2. Breaker Run.

Replace standard spec 311.3 (1) with the following:

Place breaker run where the plans show or as the engineer directs. The contractor may substitute select crushed material conforming to standard spec 312.2 for breaker run.

11.3. Aggregate Quality Testing for High-Performance Concrete (HPC) Mixes.

A Description

- (1) This provision describes additional requirements for testing the quality of coarse aggregates being used in high-performance concrete mixes for structures and pavements.

- (2) Conform to the standard specifications and high-performance concrete provisions contained within the contract, as modified in this provision.

B Materials

B.1 Personnel

- (1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation.

B.2 Laboratory

- (1) Perform testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:
Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 246-5388
<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

B.3 Equipment

- (1) Furnish the necessary equipment and supplies for performing quality control testing. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

B.4 Records

- (1) Document all observations, inspection records, and test results. Submit testing records to the engineer.

B.5 Contractor Testing

- (1) Perform all quality control tests necessary to control the production processes applicable to this special provision. Use the test methods identified below, or other methods the engineer approves, to perform the following tests:

LA Wear (100 and 500 revolutions) AASHTO T 96
Sodium Sulfate Soundness (R-4, 5 cycles) AASHTO T 104
Freeze-Thaw Soundness AASHTO T 103
Chert^[1]

^[1]Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on the 3/8-inch sieve by the weight of the total sample.

- (2) The department may periodically observe contractor sampling and testing, and direct additional contractor sampling and testing for department evaluation. Ensure that all test results are available for the engineer's review at any time during normal working hours.

- (3) In addition to the requirements of standard spec 106.3.4.2.2, perform tests for LA wear, sodium sulfate soundness, freeze-thaw soundness and chert at least once per calendar year when producing coarse aggregates for use in high-performance concrete mixes.
- (4) Randomly test the percentage of chert at least once per 10,000 tons during production of coarse aggregates to be used in high-performance concrete mixes or at least once per 10,000 cubic yards during placement of high performance concrete pavement.

B.6 Department Testing

- (1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will sample randomly at locations independent of the contractor's QC work. In all cases, the department will conduct the verification tests with separate personnel and equipment from the contractor's QC tests. The department will perform verification testing of chert at a frequency of 10 percent of the random quality control tests or a minimum of once per project, or at greater frequency if determined to be necessary by the engineer.

C (Vacant)

D (Vacant)

E Payment

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay.

11.4. Asphaltic Base.

A Description

Furnish materials for and prepare the asphaltic base in accordance to standard spec 315, except as modified herein.

B Materials

Supplement standard spec 315.2 with the following:

Furnish asphaltic mixture meeting the requirements specified for E-1 under standard spec 460.2.

Provide asphaltic material (PG 64-22) for this mix in accordance to standard spec 455.

C Construction

Replace standard spec 315.3.1 with the following:

Conform to the general requirements for asphaltic pavements specified in standard spec 450, except as modified here in standard spec 315.3. Place the mixture in a single 3-inch (75 mm) compacted layer unless the engineer directs otherwise. Standard spec 460.3.2 shall not apply to this item.

If automatics break down during string line controlled placement, stop and suspend placement of the asphaltic base until the line and grade controls are restored.

C.2 Foundation

Prepare the foundation according to standard spec 211. Before placing asphaltic base, repair and re-compact rutted or disturbed areas of the foundation resulting from hauling or paving operations as specified in standard spec 211. If the contractor fails or neglects to perform the required repair of damaged foundation, the engineer may suspend paving operations until the contractor performs satisfactory reconditioning of the foundation.

C.3 Pavers

If the automatics break down during ski controlled placement, the contractor may pave under manual control only until the end of that working day.

C.4 Mixture and Density Testing

Perform QMP testing work as designated in standard spec 460 for this item.

Perform Density testing as designated in standard spec 460 for SMA mixes for this item.

The engineer may waive density testing if acceptable test results are reported and a rolling pattern is established on the first day of paving for this project. The results of this testing will be used to verify that the contractor's rolling pattern yields a minimum of 89.5% of the target maximum density.

Incentive and Disincentive for HMA Pavement Density are not included with this item.

D (Vacant)

E Payment

Supplement standard spec 315.5 with the following:

The department will adjust payment for asphaltic base for non conforming QMP HMA Mixtures as specified in standard spec 460.2.8.2.1.7.

11.5. Concrete Pavement.

Supplement standard spec 415 as follows:

415.3.3 Preparing the Foundation

Add the following text:

Place multiple layers of polyethylene sheets over entire area where concrete pavement contacts the concrete masonry associated with the MSE wall. Total thickness of the sheets shall be at least 0.03 inches.

415.5.1 General

Add the following text:

- (6) Payment for multiple layers of polyethylene sheets placed at locations where concrete pavement contacts the concrete masonry associated with the MSE wall is considered incidental to the Concrete Pavement bid items or HPC Concrete Pavement bid items included in the contract.

11.6. High Performance Concrete (HPC) Pavement 8-Inch, Item SPV.0180.005; 9-Inch, Item SPV.0180.006; 10 ½-Inch, Item SPV.0180.007; HES 9-Inch, SPV.0180.008; HES 10 ½-Inch, Item SPV.0180.009; Approach Slab, Item SPV.0180.013.

This special provision describes specialized material and construction requirements to be utilized on all concrete pavement and shoulders. Conform to standard spec 415 and 501, as modified in this special provision. Conform to standard spec 715 for QMP, as modified in this special provision.

MODIFY STANDARD SPEC 415 AS FOLLOWS:

415.3.6.2 Slip-Formed Pavement

Add the following as paragraph six:

- (6) Treat sawed surfaces of transverse and longitudinal joints with a silane joint sealant found on the department approved products list for Concrete Protective Surface Treatments. Prepare surface by pressure washing all saw slurry from sawed joints and allow to dry thoroughly prior to application of silane sealer. Apply the product directly to the interior of the sawed joint. Do not use the broadcast spray method of application.

415.5.1 General

Replace paragraph one with the following:

The department will pay for measured quantities at the contract unit price and incidentals necessary to complete the work under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.005	HPC Pavement 8-Inch	SY

SPV.0180.006	HPC Pavement 9-Inch	SY
SPV.0180.007	HPC Pavement 10 1/2-Inch	SY
SPV.0180.008	HPC Pavement HES 9-Inch	SY
SPV.0180.009	HPC Pavement HES 10 1/2-Inch	SY
SPV.0180.013	HPC Concrete Pavement Approach Slab	SY

MODIFY STANDARD SPEC 501 AS FOLLOWS:

501.2.1.1 Testing

Add the following to standard spec 501.2.1.1:

- (4) Test flexural strength according to AASHTO T 97.
Test splitting tensile strength according to AASHTO T 198.

501.2.5.4.1 General

Replace the entire text with the following:

- (1) Use clean, hard, durable crushed limestone with 100% fractured surfaces and free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.
- (2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances

Replace standard spec 501.2.5.4.2(1) with the following:

- (1) The amount of deleterious substances must not exceed the following percentages:
- | DELETERIOUS SUBSTANCE | PERCENT BY WEIGHT |
|---|-------------------|
| Shale..... | 1.0 |
| Coal | 1.0 |
| Clay lumps | 0.3 |
| Soft fragments | 5.0 |
| Any combination of above..... | 5.0 |
| Flat or elongated pieces based on a 3:1 ratio | 15.0 |
| Materials passing the No. 200 sieve | 1.5 |
| Chert ^[1] | 3.0 |

^[1]Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on a 3/8-inch sieve by the weight of the total sample.

501.2.5.4.3 Physical Properties

Replace standard spec 501.2.5.4.3(1) with the following:

- (1) The percent wear shall not exceed 30, the weighted soundness loss shall not exceed 6 percent, and the weighted freeze-thaw average loss shall not exceed 15 percent.

501.3.5.1 General

Replace paragraph one with the following:

- (1) Use central-mixed concrete as defined in standard spec 501.3.5.1(2) for all work under this special provision.

501.3.5.2 Delivery

Replace paragraph three with the following:

- (3) Deliver and completely discharge the concrete within the following limits, beginning when adding water to the cement, or when adding cement to the aggregates.

Delivered in Agitating Vehicles:

60 minutes if the concrete temperature is 60 F or higher at placement, and the contractor does not use a department-approved retarder.

90 minutes if the concrete temperature is less than 60 F at placement.

90 minutes if the concrete temperature is 60 F or higher at placement, and the contractor uses a department-approved retarder.

Delivered in Non-Agitating Vehicles:

30 minutes if the concrete temperature is 85 F or higher at placement, and the contractor does not use a department-approved retarder.

45 minutes if the concrete temperature is 60 F to less than 85 F at placement, and the contractor does not use a department-approved retarder.

60 minutes if the concrete temperature is less than 60 F at placement.

60 minutes if the concrete temperature is 60 F or higher at placement, and the contractor uses a department-approved retarder.

Replace paragraph six with the following:

- (6) The contractor may deliver central-mixed concrete to the work site by equipment with non-agitating body types. These body types are smooth, mortar-tight, metal containers capable of discharging the concrete at a satisfactorily controlled rate. Do not use aluminum bodies. Provide watertight covers for protection against the weather if necessary. The concrete in these vehicles should show no appreciable water gain at the surface. The concrete should freely and readily discharge from the vehicle, be free of excessive segregation of the fine and coarse aggregates, and have an air content within the required range at the point of discharge. Slump tests made during discharge should not differ by more than 2 inches. Remove all foreign

material or accumulated concrete from truck bodies prior to batching concrete into those vehicles.

501.3.8.2.1 General

Replace the entire text with the following:

- (1) The contractor is responsible for the quality of the concrete placed in hot weather. For concrete placed under this special provision, submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80 F. Do not place concrete under the items in this special provision without the engineer's written acceptance of that temperature control plan. Perform work as outlined in the temperature control plan. The concrete temperature at the point of placement exceeds 90 F, do not place concrete under this special provision.

If the concrete temperature at the point of placement exceeds 90 F, do not place concrete under this special provision.

Notify the engineer whenever conditions exist that might cause the temperature at the point of placement to exceed 80 F. If project information is not available, the contractor should obtain information from similar mixes placed for other nearby work.

If the air temperature exceeds 80 degrees F, ensure that the base material is in a moist condition during concrete placement. Water the base material, as required, not less than 6 hours before placing the concrete. If the base material subsequently dries, moisten it by sprinkling water just before placing the concrete. Sprinkle the water to avoid forming pools.

505.5 Payment

Replace standard spec 501.5(3) with the following:

- (3) Ice, additives, or other actions the contractor takes to control the temperature of concrete are incidental to this item.

Add the following as paragraph four:

- (4) Water used to wet the base material is incidental to this item.

MODIFY STANDARD SPEC 715 AS FOLLOWS:

715.2.3.1 Pavements

Replace standard spec 715.2.3.1(1) with the following:

- (1) Use at least 5 pairs of beams and 5 pairs of cylinders to demonstrate the flexural strength and splitting tensile strength of a mix design. Demonstrate that the 28-day flexural strength of the proposed mix will equal or exceed 650 psi. Ensure that the average flexural strength of any one pair of beams is not less than 490 psi. The contractor need not provide separate laboratory mix designs and strength tests for high early strength concrete.

715.3.2.2.1 Pavement

Replace the entire section with:

If a subplot strength is less than 3000 psi, the department may direct the contractor to core that subplot to determine its structural adequacy and whether to direct removal. Cut and test cores according to AASHTO T 24 and as where the engineer directs. Have an HTCP certified PCC technician I perform or observe the coring.

The subplot pavement is conforming if the compressive strengths of all cores from the subplot are 3000 psi or greater or the engineer does not require coring.

The subplot pavement is nonconforming if the compressive strengths of any core from the subplot is less than 3000 psi. The department may direct removal and replacement or otherwise determine the final disposition of nonconforming material as specified in 106.5.

715.5.1 General

Replace 715.5.1(4) with the following:

The department will adjust pay for each lot using PWL of the 28-day subplot average strengths for that lot. The department will measure PWL relative to the lower specification limit of 4500 psi for pavements. The department will not pay a strength incentive for concrete that is nonconforming in another specified property.

715.5.2 Pavements

Replace paragraph three with the following:

For lots with a full battery of QC tests at less than 4 locations, there is no incentive but the department will assess a disincentive based on the individual subplot average strengths. The department will reduce pay for sublots with an average strength below 4500 psi by \$1.50 per square yard.

11.7. QMP Ride; Incentive IRI Ride, Item 440.4410.S.

A Description

- (1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.
- (2) Profile the final riding surface of all mainline pavements, bridges, approaches, and railroad crossings. Roundabouts, and pavements within 150 feet of the points of curvature of roundabout intersections, are excluded from the testing requirements of this provision.
- (3) Pavements that are excluded from localized roughness according to C.5.2(1), bridges, and roundabout intersections are subject to engineer-directed straightedging according to the standard specifications. All other surfaces being tested under this provision are exempt from straightedging requirements.

B (Vacant)

C Construction

C.1 Quality Control Plan

- (1) Submit a written quality control plan to the engineer at or before the pre-construction conference. Ensure that the plan provides the following elements:
 1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
 2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
 3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process.
 4. The evaluation process that will be used to make improvements to the construction operations if poor ride quality is found during the process control testing.
 5. The methods that will be used to ensure a smooth pavement transition when matching into existing surfaces such as bridges, bridge approaches, or railroad crossings.
 6. The segment locations of each profile run used for acceptance testing.
 7. The approximate timing of acceptance testing in relation to the paving operations.

C.2 Personnel

- (1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and document the results using the methods taught in the HTCP profiling course.

C.3 Equipment

- (1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:
<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>
- (2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface. Calibrate the profiler according to the manufacturer's recommendations. Provide the engineer with a copy of the most recent calibration results, signed by the certified profiler operator.
- (3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer prior to performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

C.4 Testing

C.4.1 Run and Reduction Parameters

- (1) Enter the equipment-specific department-approved filter settings and parameters listed on the department's ride web site.

C.4.2 Contractor Testing

- (1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.
- (2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.
- (3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the subplot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:
 1. Standard segments are 500 feet long.
 2. Partial segments are less than 500 feet long.
- (4) Treat partial segments as independent segments.

- (5) The department will categorize each standard or partial segment as follows:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	Description
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement including all gaps.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	Description
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

C.4.3 Verification Testing

- (1) The department may conduct verification testing (QV) to validate the quality of the product. A certified HTCP profiler technician will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.
- (2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.
- (3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.
- (4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

C.4.4 Documenting Profile Runs

- (1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Within 5 business days after completing a final acceptance profile run, submit a copy of the ProVAL smoothness assurance report showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 175 in/mile. The ProVAL software and department-specified inputs are available on the department's web site:

<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>

- (2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness and the locations of individual features including construction joints, structure limits, design features, utility fixtures, and other features that might affect the department's evaluation of ride quality. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions.
- (3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ERD files for each profiler acceptance run. Submit profile data using the department's Materials Reporting System (MRS) software available on the department's web site:

<http://www.atwoodsystems.com/mrs>

C.5 Corrective Actions

C.5.1 General

- (1) Correct the ride as the engineer directs. The department will independently assess whether a repair will help or hurt the long-term pavement performance and/or public perception of the ride before deciding on corrective action.

C.5.2 Corrective Actions for Localized Roughness

- (1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones and will compensate the contractor for the extra work.
- (2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness that exceed an IRI of 175 in/mile and do one of the following for each location:
 1. Direct the contractor to correct the area to minimize the effect on the ride.
 2. Leave the area of localized roughness in place with no pay reduction.
 3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

Localized Roughness IRI (in/mile)	Pay Reduction ^[1] (dollars)
> 175	(Length in Feet) x (IRI – 175)

- [1] A maximum \$250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of \$10 per foot.
- (3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.
 - (4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results.

C.5.3 Corrective Actions for Excessive IRI

- (1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:
 - HMA I: Correct to an IRI of 60 in/mile using whichever of the following methods the engineer directs:
 - Mill and replace the full lane width of the riding surface excluding the paved shoulder.
 - Correct the full lane width using techniques approved by the engineer.
 - HMA II: Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs:
 - Mill and replace the full lane width of the riding surface excluding the paved shoulder.
 - Correct the full lane width using techniques approved by the engineer.
 - PCC II: Correct to an IRI of 85 in/mile using whichever of the following methods the engineer directs:
 - Continuous diamond grinding of the full lane width of the riding surface including adjustment of the paved shoulders
 - Correct the full lane width using techniques approved by the engineer.
- (2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Submit a revised ProVAL smoothness assurance report for the corrected areas to validate the results. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

C.6 Dispute Resolution

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.
- (2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

D Measurement

- (1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

E Payment

E.1 Payment for Profiling

- (1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract.

E.2 Pay Adjustment

- (1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

- (2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.
- (3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.
- (4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.
- (5) The department will adjust pay for each segment based on the initial IRI for that segment before any corrective action is taken. The department will base disincentives on the IRI after correction for pavement meeting the following conditions:

- All Pavement: The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
- HMA Pavements: The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
- Concrete Pavements: The corrective work is a full depth replacement and conforms to standard spec 415.

- (6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation “QMP 1.03” as follows:

HMA I	
Initial IRI (inches/mile)	Pay Adjustment^[1] (dollars per standard segment)
< 30	250
≥ 30 to < 35	$1750 - (50 \times \text{IRI})$
≥ 35 to < 60	0
≥ 60 to < 75	$1000 - (50/3 \times \text{IRI})$
≥ 75	-250

HMA II and PCC II	
Initial IRI (inches/mile)	Pay Adjustment^{[1][2]} (dollars per standard segment)
< 50	250
≥ 50 to < 55	$2750 - (50 \times \text{IRI})$
≥ 55 to < 85	0
≥ 85 to < 100	$(4250/3) - (50/3 \times \text{IRI})$
≥ 100	-250

HMA IV and PCC IV	
Initial IRI (inches/mile)	Pay Adjustment^{[1][2]} (dollars per standard segment)
< 50	250
≥ 50 to < 75	$750 - (10 \times \text{IRI})$
≥ 75	0

^[1] If the engineer directs placing upper layer asphaltic mixtures between October 15 and May 1 for department convenience as specified in standard spec 450.3.2.1(5), the department will not adjust pay for ride on pavement the department orders the contractor to place when the temperature, as defined in standard spec 450.3.2.1(2), is less than 36 F.

^[2] If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

- (7) The department will prorate the pay adjustment for partial segments based on their length.
440-010 (20100709)

11.8. HMA Pavement – Lower Layers Less Than 2 ¼”.

Complete work in accordance to standard spec 460 and as herein provided.

The aggregates for lower layers of pavement less than 2 ¼” shall conform to the gradation requirements in standard spec 460.2.2.3, Table 460-1, based on a nominal size of 12.5mm.

11.9. QMP HMA Pavement Nuclear Density.

A Description

Replace standard spec 460.3.3.2 (1) and standard spec 460.3.3.2 (4) with the following:

- (1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.
- (2) Provide and maintain a quality control program defined as all activities and documentation of the following:
 1. Selection of test sites.
 2. Testing.
 3. Necessary adjustments in the process.
 4. Process control inspection.
- (3) Chapter 8 of the department’s construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department’s web site at:
<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>
- (4) The department’s Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department’s web site at:
<http://www.atwoodsystems.com/mrs>

B Materials

B.1 Personnel

- (1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.
- (2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician

ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.2 Testing

- (1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

B.3 Equipment

B.3.1 General

- (1) Furnish nuclear gauges from the department's approved product list at <http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>.
- (2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.
- (3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:
Materials Management Section
3502 Kinsman Blvd.
Madison, Wisconsin 53704
Telephone: (608) 243-5998

B.3.2 Correlation of Nuclear Gauges

B.3.2.1 Correlation of QC and QV Nuclear Gauges

- (1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.
- (2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.
- (3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft³. Measure and record the density on the 5 additional test sites for each gauge.
- (4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft³ and repeat correlation process from B.3.2.1 (2).

- (5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

B.3.2.2 Correlation Monitoring

- (1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project. Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.
- (2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.
- (3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft³ of its reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft³ of its reference value established in B.3.2.2(2).
- (4) Maintain the reference site test data for each gauge at an agreed location.

B.4 Quality Control Testing and Documentation

B.4.1 Lot and Sublot Requirements

B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances

- (1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.
- (2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.
- (3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.
- (4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.

- (5) Randomly select test locations for each subplot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.
- (6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

Lane Width	No. of Tests	Transverse Location
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

Table 1

B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

- (1) A lot represents a combination of the total daily tonnage for each layer and target density.
- (2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one subplot for each layer.
- (3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.
- (4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per subplot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

Table 2

B.4.2 Pavement Density Determination

B.4.2.1 Mainline Traffic Lanes and Appurtenances

- (1) Calculate the average subplot densities using the individual test results in each subplot.
- (2) If all subplot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.

- (3) If any subplot average is more than one percent below the target density, do not include the individual test results from that subplot when computing the lot average density and remove that subplot's tonnage from the daily quantity for incentive. The tonnage from any such subplot is subject to disincentive pay according to standard spec 460.5.2.2.

B.4.2.2 Mainline Shoulders

B.4.2.2.1 Width Greater Than 5 Feet

- (1) Determine the pavement density as specified in B.4.2.1.

B.4.2.2.2 Width of 5 Feet or Less

- (1) If all subplot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.
- (2) If a subplot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts

- (1) Determine the pavement density as specified in B.4.2.1.

B.4.2.4 Documentation

- (1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

B.4.3 Corrective Action

- (1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.
- (2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted subplot. Testing in a previously accepted subplot will not be used to recalculate a new lot density.
- (3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full subplot width within the traffic lanes or shoulders.

- (4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.
- (5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the subplot and lot densities.
- (6) If 2 consecutive subplot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

B.5 Department Testing

B.5.1 Verification Testing

- (1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one subplot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.
- (2) The QV tester will test each selected subplot using the same testing requirements and frequencies as the QC tester.
- (3) If the verification subplot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.
- (4) If the verification subplot average is more than one percent below the specified target density, compare the QC and QV subplot averages. If the QV subplot average is within 1.0 lb/ft³ of the QC subplot average, use the QC tests for acceptance.
- (5) If the first QV/QC subplot average comparison shows a difference of more than 1.0 lb/ft³ each tester will perform an additional set of tests within that subplot. Combine the additional tests with the original set of tests to compute a new subplot average for each tester. If the new QV and QC subplot averages compare to within 1.0 lb/ft³, use the original QC tests for acceptance.
- (6) If the QV and QC subplot averages differ by more than 1.0 lb/ft³ after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

B.5.2 Independent Assurance Testing

- (1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

B.6 Dispute Resolution

- (1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.
- (2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.
- (3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV sublot density test results or retesting of the sublot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.
- (4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

B.7 Acceptance

- (1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

C (Vacant)

D (Vacant)

E Payment

E.1 QMP Testing

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

E.2 Disincentive for HMA Pavement Density

- (1) The department will administer density disincentives according to standard spec 460.5.2.2.

E.3 Incentive for HMA Pavement Density

- (1) Delete standard spec 460.5.2.3.

- (2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
From -0.4 to 1.0 inclusive	\$0
From 1.1 to 1.8 inclusive	\$0.40
More than 1.8	\$0.80

- (3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.
- (4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.
- (5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.
- 460-020 (20100709)

11.10. Concrete Pavement Joint Layout, Item SPV.0105.005.

A Description

This special provision describes designing the joint layout and staking the location of all joints on the project, including mainline and intersections (traditional and roundabouts) to accommodate the concrete paving operation.

B (Vacant)

C Construction

Design the joint layout and stake the location of all joints on the project, including mainline and intersections (traditional and roundabouts), to accommodate the concrete paving operation. Plan and set all points necessary to establish the horizontal position of the transverse and longitudinal joints in the concrete pavement in accordance to the plans, the American Concrete Pavement Association Intersection Joint Layout Guidelines, and as directed by the engineer. Establish the joint layout in a manner to best-fit field conditions, construction staging, the plan, and as directed by the engineer.

D Measurement

The department will measure Concrete Pavement Joint Layout, completed in accordance to the contract and accepted, as a single complete lump sum unit of work.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.005	Concrete Pavement Joint Layout	LS

Payment is full compensation for designing the joint layout on the mainline and all traditional and roundabout intersections; for completing all surveying work necessary to locate all transverse and longitudinal joints; for making adjustments to match field conditions and construction staging.

11.11. Concrete Pavement, Cold Weather Covering, Plastic 1 Layer, Item SPV.0180.001; Plastic 2 Layers, Item SPV.0180.002; Plastic/Hay/Plastic or Blankets, Item SPV.0180.003.

A Description

Place protective covering in accordance to standard spec 415.3.13, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Furnish materials that meet the requirements specified in standard spec 415.3.13.2.

C (Vacant)

D Measurement

The department will measure Concrete Pavement Cold Weather Covering (Type) by the square yard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.001	Concrete Pavement, Cold Weather Covering, Plastic 1 Layer	SY
SPV.0180.002	Concrete Pavement, Cold Weather Covering, Plastic 2 Layers	SY
SPV.0180.003	Concrete Pavement, Cold Weather Covering, Plastic/Hay/Plastic or Blankets	SY

Payment is full compensation for supplying the plastic, hay, material sufficient to weight down the insulating materials to withstand wind, and for furnishing all labor, tools, equipment, and incidentals required to place, remove, replace and dispose of all covering materials as required during normal concreting operations. Heating of water, aggregates, or both, if deemed necessary by the contractor to maintain placement temperature, is incidental to this item.

11.12. Geogrid Reinforcement, Item SPV.0180.004.

A Description

This special provision describes furnishing and installing geogrids for subgrade stabilization, base reinforcement, or pavement structure applications in accordance to the plans, standard spec 645, and as hereinafter provided.

B Materials

Provide geogrid that consists of either single or joined multiple layers of a uniform rectangular grid of bonded, formed, or fused polymer tensile strands crossing with a nominal right angle orientation. The polymer shall consist of polyester, polypropylene, polyamide, or polyethylene. The grid shall maintain dimensional stability during handling, placing, and installation. The geogrid shall be insect, rodent, mildew, and rot resistant. Minimum geogrid width shall be 6.0 feet.

Provide geogrid that complies with the following physical properties:

Test	Method	Value (1)
Tensile Strength at 5% Strain, Both Principal Directions (lb/ft)	ASTM D 4595 (2)	450 min.
Flexural Rigidity Both Principal Directions (mg-cm)	ASTM D 1388 (3)	150,000 min
Aperture Area (in ²)	Inside Measurement (4)	5.0 max.
Aperture Dimension (in)	Inside Measurement (4)	0.5 min

(1) All numerical values represent minimum/maximum average roll values, i.e. the average minimum test results on any roll in a lot should meet or exceed the minimum specified value.

(2) The Tensile Strength T of the joined multi-layered geogrid shall be computed using the following equation:

Where

$$T = n(f)t$$

n = the number of individual layers in the joined multi-layered geogrid,

t = the tensile strength of a single layer of geogrid as determined using testing method ASTM D4595, and

f = reduction factor based on the number of layers comprising the multilayered system and determined by the equation $f=1.00 - [0.04(n - 1)]$.

(3) Values shall be determined by Option “A” (Cantilever Test) of testing method ASTM D1388 using test specimens that are 36 inches ± 0.04 inch long. Test specimen widths for differing geogrids shall be variable and equal to 1 element plus $\frac{1}{2}$ the aperture width on

both sides of that element. An element is defined as the minimum number of parallel strands that form a distinguishable repeating pattern.

(4) Aperture Area and Aperture Dimension for joined multi-layer geogrids shall be determined based on measurement of a single layer of the geogrid.

Protect the geogrid from ultraviolet radiation and from damage due to shipping and handling. Keep the geogrid dry until it is installed. The geogrid rolls shall be clearly marked to identify the material contained.

Deliver a sample of the geogrid material to the engineer at least 10 days prior to its incorporation into the work. At the same time, furnish a manufacturer's Certified Report of Test or Analysis that verifies that the geogrid delivered for use on the work meets the above requirements. Samples of geogrid for test purposes will be obtained from the job site for each 10,000 square yards or portions thereof used on the contract.

C Construction

Prior to placement of the geogrid, bring the indicated placement surface to the required lines, grades, and dimensions as shown on the plans. Smooth and shape the surface to eliminate any rocks, clods, roots, or other items that may cause damage to the geogrid during placement or covering.

Place the geogrid on the prepared surface at the locations and to the limits as shown on the plans. After placement, pull the geogrid taut and secure it using pins, clips, staples, or other devices to prevent movement or displacement. Place parallel strips of geogrid with a minimum overlap of 6 inches. Lap butt joints between roll ends a minimum of 12 inches. Fasten all lapped sections together by using ties, straps, clips, or other devices to develop a secure joint that meets the approval of the engineer. No vehicles or construction equipment shall be permitted to operate directly on the geogrid.

Cover small rips, tears, or defects in the geogrid with an additional section of geogrid; secure the additional geogrid in place so that it overlaps the damaged area by at least 3 feet in all directions. Remove and replace geogrid sections with large rips, tears, defects, or other damage at the direction of the engineer. All costs to repair or replace damaged or defective geogrid shall be the responsibility of the contractor.

After placement, cover the geogrid to the indicated depth with the type of material required on the plans or in the special provisions. Placing, spreading, and compacting of this material shall comply with the applicable sections of the standard specifications or special provisions except that the initial lift of material placed on the geogrid must be at least 4 inches. Place, spread, and compact the required backfill material so that the geogrid is not displaced or damaged. The engineer may require changes in equipment and/or operations to prevent such damage or displacement.

D Measurement

The department will measure Geogrid Reinforcement by the square yard of surface area upon which the geogrid has been placed, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.004	Geogrid Reinforcement	SY

Payment is full compensation for furnishing, transporting, and installing the geogrid; and for furnishing and installing all devices and materials necessary to join or secure the geogrid in place.

11.13. Colored Concrete Pavement 9-Inch, Item SPV.0180. 010.**A Description**

Construct colored concrete pavement in accordance to the standard specifications, as shown in the plans, and as hereinafter provided.

B Materials**B.1 Concrete**

Conform to standard spec 405 and 415 and as follows:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979. Follow color pigment manufacturers recommendations for minimum and maximum percentage of loading by weight of the cementitious materials in the mix.

The integral color shall be dark red and shall closely match to Federal Standard 595 Color Server, FS color 10076. Provide manufacturer's color chart for integral color to engineer for approval before use.

Maintain mix characteristics for all colored concrete requiring a matching finish. Use the same source, brand, type, and color of portland cement, supplementary cementitious materials, aggregates and admixtures for colored concrete throughout the project. Use constant cement content, supplementary cementitious material content and water/cementitious materials ratio in the concrete mix to maintain consistent color.

B.2 Concrete Curing

Supply a clear, non-yellowing liquid membrane-forming clear curing compound conforming to ASTM C 1315, Type 1 A

B.3 Admixtures

Use admixtures designed for use and compatible with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides.

B.4 Mix Approval

B.4.1 General

Perform preliminary laboratory and/or field trial batching to establish the mix proportions necessary to meet the final concrete characteristics.

Submit to the engineer the final mix design including specific sources and/or trade names as applicable for all materials.

Concrete shall have a maximum 4" slump.

B.4.2 Test Panels

If the engineer deems necessary, produce test panels to demonstrate the typical texture, surface finish, color, and color intensity.

At an engineer-determined location on the project, place and finish a 6-foot by 6-foot by 9-inch colored concrete test panel using processes and techniques intended for use on permanent work, including curing procedures. Produce test panels using the same workers who will perform the contract work. Retain samples of cements, sands, aggregates and color additives used in test panels for comparison with materials used in remaining work. For an accurate representation of the desired color or color intensity, produce the colored concrete for the test panel in a minimum batch size of 2 cubic yards or in full cubic yard increments for batch sized greater than 2 cubic yards. Discard excess material.

The engineer will determine acceptance of the test panel color based on review and approval by Village of Ashwaubenon representatives. Test panel color will be evaluated for approval no earlier than 5 days after the test panel was poured and sealed.

Prepare the concrete surfaces of the colored concrete pavement test panel using the same methods and materials outlined in this section.

B.5. Antiquing Release Agent

Use an antiquing powder release agent that is compatible with the coloring materials.

The antiquing release agent color light grey and shall closely match to Federal Standard 595 Color Server, FS color 34086.

Provide manufacturer's color chart for antiquing release agent to engineer for approval before use.

B.7. Concrete Sealant

Use concrete sealant that is compatible with installation methods.

Prime Sealant: Glossy.

Secondary Sealant: Matte.

C Construction

Construct colored concrete in accordance to standard spec 416 and as herein provided.

C.1 Equipment

Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity and mechanical condition for the purposes intended. Repair, improve, replace or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Placement

Produce colored concrete in full cubic yard increments.

Produce consistent colored concrete mixes. Once colored concrete placement has started, the engineer will not allow variations in the amounts, types, or source of materials with the exception of minor adjustments of water and air-entraining agent as necessary. Other changes require the contractor to repeat the mix approval process.

Colored concrete mixes for matching colored items shall be consistent. If the contractor chooses to provide mixes with high early strength concrete, then all colored concrete for matching colored items shall be provided as high early strength concrete.

Schedule colored concrete placement to minimize exposure to rapid drying conditions, wind and full sun, before curing materials are applied. Do not place colored concrete if rain, snow, or freezing temperature is forecast within 24-hours.

Cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of colored concrete. Remove and replace discolored concrete as the engineer directs.

Perform finishing operations consistently to avoid discoloration in the finished colored concrete. Do not begin finishing until bleed water has left the surface. Addition of surface water for aiding in finishing (often referred to as blessing the concrete) is not allowed. If water is added to the surface of the colored concrete once concrete is in place, the engineer will reject the colored concrete. During final finishing and texturing apply all strokes in the same direction.

Cure colored concrete in accordance to standard spec 415.3.12, using the impervious coating or impervious sheeting method. Protect colored concrete from premature drying and excessive cold or hot temperatures by prompt application of curing materials. Do not allow plastic sheeting to come in contact with colored concrete.

Shake or spray antiquing release agent over concrete surface after applying the color hardeners.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after placement.

C.2 Finishing

Allow concrete to cure for 24 hours after application of the antiquing release agents.

Pressure wash concrete surface to remove approximately 80% of the antiquing release agent.

Ensure that concrete is clean and dry before proceeding with concrete sealant.

Spray or roll on a single layer of gloss sealant. Follow by spraying on a single coat of matte finish sealer. Do not roll matte finish sealer onto concrete surfaces.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after finishing.

D Measurement

The department will measure Colored Concrete Pavement 9-Inch in accordance to standard spec 415.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.010	Colored Concrete Pavement 9-Inch	SY

Payment is full compensation for preparing the foundation, unless provided otherwise; for developing mix designs and providing sample panels or test panels; for furnishing materials (including concrete masonry, colored pigments, sealers, joint and bond breakers, and retarders), hauling, preparing, placing, curing, and protecting the concrete; for sawing required for construction of colored concrete; for finishing the concrete as indicated in the plans; for jointing and joint materials, and tie bars; for measuring opening strength including fabricating and testing cylinders, obtaining and testing cores, and evaluating maturity; and for furnishing all removal of colored concrete.

12. Bridges.

12.1. Notice to Contractor, Deck Curing.

Water may be available from the adjacent municipalities to provide continuous water for deck curing. If the contractor chooses to use a municipal hydrant to water the deck, the contractor provides the flow meter and State Registered reduced pressure principle backflow preventer assembly for each connection. Provide affidavit of use stating if new, or if previously used, that it has only been used on potable water sources. Municipality

will test the flow meter and the backflow preventer assembly. Any meter or backflow preventer failing the tests will be returned to the contractor for repair. The municipality reserves the right to disapprove of a hydrant use based on fire protection or other public safety concerns. Municipality will connect the equipment to the hydrant and remove the equipment from the hydrant when work is complete. Contractor shall not operate municipal hydrants. Contact the Village of Ashwaubenon at (920) 492-2335 or Brian Powell at (920) 448-3480 for the City of Green Bay Water Utility for testing, installation or removal. Contractor will pay all costs for water, testing, Municipality staff time and any other related fees. The Municipality will not be held responsible for any damage to the flow meters or back flow preventers as a result of unsuitable water supply.

12.2. Notice to Contractor, Staining Glory Road Bridge Retaining Walls.

The Glory Road Bridge retaining walls R-5-204 and R-5-205, which were constructed previously will have portions of each stained as part of this contract. Prepare the surfaces of each prior to staining as follows:

Prior to staining, clean all concrete surfaces to be stained to ensure that the surface is free of all laitance, dirt, dust, grease efflorescence, and any foreign material in order to accept the stain according to product requirements. At a minimum, the cleaning should consist of a 3000 psi water blast. Hold the nozzle of the water blaster approximately 6" from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed. This work shall be paid for under the bid item SPV.0165.01 Staining Concrete.

12.3. Stockpile Formliners and Stain.

A Description

This special provision describes furnishing and delivering to the department formliners and concrete stain used on bridges, walls, sign bases, and other areas upon completion of the project.

B Materials

Provide a document containing the pertinent information for the formliners and stain colors incorporated into the project along with materials in accordance to the following:

B.1 Concrete Stain

Provide stain colors in accordance to the specifications for the staining items included in the contract. Materials shall be provided in original manufacturer's containers which allow for long term storage. Partial containers of stain will not be accepted.

B.2 Formliners

Provide section(s) of reusable formliner for the architectural pattern(s) used in the contract.

C Construction

The required formliners and stain become the property of the department upon completion of the project. The department will inspect the materials prior to delivery to the local municipality or to the department office to ensure materials are in an acceptable condition.

Deliver the items to the local municipality or department as approved by the engineer. Coordinate time and location of delivery with the engineer.

Deliver the following items:

Formliner: Four 4-feet high x 3-feet wide formliner panels for each architectural pattern per municipality used

Stain: 5 gallons of each color of stain for each municipality on the project

D Measurement

The department will not make measurement for these items and they will be considered incidental to the other items in the contract.

E (Vacant)

12.4. Debris Containment Structure B-05-109, Item 203.0225.S.700; B-05-107, Item 203.0225.S.703; B-05-114, Item 203.0225.S.704; B-05-135, Item 203.0225.S.705; B-05-136, Item 203.0225.S.706; B-05-137, Item 203.0225.S.710; B-05-138, Item 203.0225.S.711; B-05-139, Item 203.0225.S.712; B-05-140, Item 203.0225.S.713; B-05-115, Item 203.0225.S.714; B-05-124, Item 203.0225.S.715; B-05-116, Item 203.0225.S.716; B-05-132, Item 203.0225.S.717; B-05-082, Item 203.0225.S.718; B-05-083, Item 203.0225.S.719.

A Description

This special provision describes providing a containment system to prevent debris from structure removal, reconstruction, or other construction operations from falling onto facilities located under the structure. Using this containment system does not relieve the contractor of requirements under standard spec 107.17 and standard spec 107.19 or requirements under a US Army Corps of Engineers Section 404 Permit.

B (Vacant)

C Construction

Prior to starting work, submit a debris containment plan to the engineer for review. Debris containment shall include the use of timber crane pads, sand or other similar

materials approved by the engineer to protect USH 41, Parkview Road/Wisconsin Central Ltd. railroad track, Oneida Street, STH 172 and STH 172 ramps, Cormier Road, Morris Avenue and Lombardi Avenue. Incorporate engineer-requested modifications. Do not start work over USH 41, Parkview Road/Wisconsin Central Ltd. railroad track, Oneida Street, STH 172 and STH 172 ramps, Cormier Road, Morris Avenue or Lombardi Avenue until the engineer approves the debris containment plan.

Maintain adequate protection throughout construction for people and property within the potential fall zone. Ensure that a containment system capable of protecting underlying facilities from falling construction debris is in place before beginning deck repair, parapet removal, or other operations that may generate debris.

At least 15 working days before conducting potential debris generating operations, contact the following owners or lessees:

Canadian National

Contact Jackie Macewicz, Manager Public Works, 1625 Depot St., Stevens Point, WI, 54481, telephone (715) 345-2503, FAX (715) 345-2534, email jackie.macewicz@cn.ca

D Measurement

The department will measure Debris Containment Structure (Structure) as a single lump sum unit of work for each structure, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
203.0225.S.700	Debris Containment Structure B-05-109	LS
203.0225.S.703	Debris Containment Structure B-05-107	LS
203.0225.S.704	Debris Containment Structure B-05-114	LS
203.0225.S.705	Debris Containment Structure B-05-135	LS
203.0225.S.706	Debris Containment Structure B-05-136	LS
203.0225.S.710	Debris Containment Structure B-05-137	LS
203.0225.S.711	Debris Containment Structure B-05-138	LS
203.0225.S.712	Debris Containment Structure B-05-139	LS
203.0225.S.713	Debris Containment Structure B-05-140	LS
203.0225.S.714	Debris Containment Structure B-05-115	LS
203.0225.S.715	Debris Containment Structure B-05-124	LS
203.0225.S.716	Debris Containment Structure B-05-116	LS
203.0225.S.717	Debris Containment Structure B-05-132	LS
203.0225.S.718	Debris Containment Structure B-05-082	LS
203.0225.S.719	Debris Containment Structure B-05-083	LS

Payment is full compensation for furnishing, installing, maintaining, and removing a debris containment system.

12.5. High Performance Concrete (HPC) Masonry Structures, Item SPV.0035.700.

This special provision describes specialized material and construction requirements for high-performance concrete used in bridge structures. Conform to standard spec 501 and 502 as modified in this special provision. Conform to standard spec 715 for QMP, as modified in this special provision.

MODIFY STANDARD SPEC 501 AS FOLLOWS:

501.2.5.4.1 General

Replace the entire text with the following:

- (1) Use clean, hard, durable crushed limestone with 100% fractured surfaces and free of an excess of thin or elongated pieces, frozen lumps, vegetation, deleterious substances or adherent coatings considered injurious.
- (2) Use virgin aggregates only.

501.2.5.4.2 Deleterious Substances

Replace paragraph one with the following:

- (1) The amount of deleterious substances must not exceed the following percentages:

DELETERIOUS SUBSTANCE	PERCENT BY WEIGHT
Shale.....	1.0
Coal.....	1.0
Clay lumps	0.3
Soft fragments.....	5.0
Any combination of above.....	5.0
Thin or elongated pieces based on a 3:1 ratio.....	15.0
Materials passing the No. 200 sieve	1.5
Chert ^[1]	1.0

^[1]Material classified lithologically as chert and having a bulk specific gravity (saturated surface-dry basis) of less than 2.45. Determine the percentage of chert by dividing the weight of chert in the sample retained on a 3/8-inch sieve by the weight of the total sample.

501.2.5.4.3 Physical Properties

Replace paragraph one with the following:

- (1) The department will ensure that Los Angeles wear testing conforms to AASHTO T 96, soundness testing conforms to AASHTO T 104 using 5 cycles in sodium sulfate solution on aggregate retained on the No. 4 sieve, and freeze-thaw soundness testing conforms to AASHTO T 103. The percent wear

must not exceed 30, the weighted soundness loss must not exceed 6 percent, and the weighted freeze-thaw average loss must not exceed 15 percent.

501.2.9 Concrete Curing Materials

Replace paragraph 3 with the following:

- (3) Furnish burlap conforming to AASHTO M 182, class 1, 2, 3 or 4.

501.3.2.4.3.3 Extended Delivery Time

Delete paragraph one.

501.3.5.2 Delivery

Replace paragraph three with the following:

- (3) Deliver and completely discharge concrete within one hour beginning when adding water to the cement, or when adding cement to the aggregates. A decrease in air temperature below 60° F or the use of department-approved retarders does not increase the discharge time.

501.3.7.1 Slump

Replace the entire text with the following:

- (1) Use a 2-inch to 4-inch slump.
- (2) Perform the slump tests for concrete according to AASHTO T 119.

501.3.8.2.1 General

Replace the entire text with the following:

- (1) The contractor is responsible for the quality of the concrete placed in hot weather. Submit a written temperature control plan at or before the pre-pour meeting. In that plan, outline the actions the contractor will take to control concrete temperature if the concrete temperature at the point of placement exceeds 80° F. Do not place concrete without the engineer's written acceptance of that temperature control plan. Perform the work as outlined in the temperature control plan.
- (2) If the concrete temperature at the point of placement exceeds 80° F, do not place concrete for items covered in this special provision.
- (3) Notify the engineer whenever conditions exist that might cause the temperature at the point of placement to exceed 80° F. If project information is not available, the contractor should obtain information from similar mixes placed for other nearby work.

- (4) Any additive or action taken by the contractor to control the temperature of the concrete to within the limits of this special provision, including but not limited to the addition of ice to the concrete mix, is considered incidental to the work and will not be measured or paid for separately.

501.3.8.2.2 Bridge Decks

Replace the entire text with the following:

- (1) Do not place concrete for bridge decks when the ambient air temperature is above 80° F.
- (2) For concrete placed in bridge decks, submit a written evaporation control plan at each pre-pour meeting. In that plan, outline the actions the contractor will take to maintain concrete surface evaporation at or below 0.15 pounds per square foot per hour. Do not place concrete for bridge decks without the engineer's written acceptance of that evaporation control plan. Perform the work as outlined in the evaporation control plan.
- (3) If predicting a concrete surface moisture evaporation rate exceeding 0.15 pounds per square foot per hour, do not place concrete for bridge decks.
- (4) Provide evaporation rate predictions to the engineer 24 hours prior to each bridge deck pour.
- (5) Compute the evaporation rate from the predicted ambient conditions at the time and place of the pour using the nomograph, or computerized equivalent, specified in CMM 5.25, figure 1. Use weather information from the nearest national weather service station. The engineer will use this information to determine if the pour will proceed as scheduled.
- (6) At least 8 hours before each pour, the engineer will inform the contractor in writing whether or not to proceed with the pour as scheduled. If the actual computed evaporation rate during the pour exceeds 0.15 pounds per square foot per hour, at the sole discretion of the engineer, the contractor may be allowed to implement immediate corrective action and complete the pour.

MODIFY STANDARD SPEC 502 AS FOLLOWS:

502.3.5.4 Superstructures

Delete paragraph six.

502.3.7.8 Floors

Replace paragraph five with the following:

- (5) The contractor shall set the rails or tracks, that the machine finisher rides on, to the required elevation; and ensure they adjust to allow for settlement under load. The rails or tracks shall be supported outside the limits of the finished riding surface. Rails or tracks are not allowed to be supported within the finished riding surface, without written permission of the engineer.

Delete paragraphs thirteen, fourteen and fifteen. Add the following to the end as paragraphs nineteen, twenty and twenty-one.

- (19) Do not place bridge deck concrete more than 10 feet ahead of the finishing machine. If there is a delay of more than 10 minutes during the placement of a bridge deck, cover all concrete (unfinished and finished) with wet burlap to protect the concrete from evaporation until placement operations resume.
- (20) Hand finishing, except for the edge of deck, must be kept to a minimum. The finishing machine must be equipped with a pan behind the screed. Apply micro texture using a broom or turf drag following the use of a 10-foot straight edge. Only finish by hand as necessary to close up finished concrete. Begin wet curing the deck immediately following the micro texture.
- (21) For bridge decks with a design speed of 40 mph or greater, provide longitudinal grooving according to the provision included in this contract.

502.3.8.1 General

Replace paragraph one with the following:

- (1) Maintain adequate moisture throughout the concrete mass to support hydration for at least 14 days.

502.3.8.2.1 General

Replace the entire text with the following:

- (1) Wet-cure the concrete for bridge decks, approach aprons, sidewalks and raised medians for 14 days by use of a soaker hose system, or other engineer-approved methods. Cover the finished surface of bridge decks and overlays with one layer of wetted burlap or wetted cotton mats within 10 minutes after the finishing machine has passed. Apply the burlap/cotton gently so as to minimize marking of the fresh concrete. Keep the first layer of burlap/cotton continuously moist by means of fogging equipment until the bridge deck or overlay is sufficiently hard to apply a second layer of wetted burlap/cotton. Care shall be taken to not apply too much water to the fresh concrete surface. Any and all damage to the concrete surface shall be the responsibility of the contractor to correct to the engineer's approval. The intent is to keep the

surface moist until the soaker hose system is in place. Free standing water shall not be on or running off the deck surface. Immediately after applying the second layer of burlap/cotton, continue to keep the deck moist until placing and activating the soaker hose system. Throughout the remainder of the curing period, keep the burlap/cotton continuously wet with soaker hoses hooked up to a continuous water source. Inspect the burlap/cotton twice daily to ensure the entire surface is moist. If necessary, alter the soaker hose system as needed to ensure the entire surface is completely covered and stays moist. After 48 hours from the time of completion of the bridge deck or overlay pour, the soaker hose system and burlap/cotton may be covered with polyethylene sheeting. Provide a continuous flow of water through the soaker hose system for the entire curing period.

- (2) Do not uncover any portion of the deck at any time for any reason during the first 7 days of the curing period.
- (3) Set up and test the fogging system before each bridge deck, raised median and sidewalk pour. The fogging system must remain set up and in operating condition for the duration of the pour.

502.3.8.2.3 Decks

Delete the entire text.

502.3.8.2.4 Parapets

Replace the entire text with the following:

- (1) Cure the inside and outside concrete faces and tops of railings or parapets by covering with wetted burlap immediately after form removal and surface finish application. Keep the burlap thoroughly wet for at least 7 days; or by covering for the same period with thoroughly wet polyethylene-coated burlap conforming to standard spec 501.2.9.
- (2) Secure coverings along all edges to prevent moisture loss.

502.3.9.6 Bridge Decks

Replace paragraph two with the following:

- (2) Protect the underside of the deck, including the girders, for bridge deck and overlay pours by housing and heating when the national weather service forecast predicts temperatures to fall below 32° F during the cold weather protection period. Maintain a minimum temperature of 40° F in the enclosed area under the deck for the entire 14-day curing period.

502.5.1 General

Replace paragraph one with the following:

The department will pay for measured quantities at the contract unit price and incidentals necessary to complete the work under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.700	HPC Masonry Structures	CY

MODIFY STANDARD SPEC 710 AS FOLLOWS:

Add the following subsection:

710.5.7 Chloride Penetration Resistance

(1) For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 259 (Salt Ponding Test)

For each new or changed mix design, measure chloride penetration resistance according to AASHTO T 277 (Rapid Chloride Permeability Test) at a frequency of 1 test per 3 months (quarterly) of production.

Permeability samples for AASHTO T 277 testing must be stripped of their molds and wet cured to an age of 7 days in a standard moist room or water tank. After 7 days, submerge the samples in water heated to 100° F until an age of 28 days. Upon completion of the curing process, obtain one sample from each cylinder and test according to AASHTO T 277.

- (4) Ensure that the initial accepted mix designs meet the chloride penetration resistance limit of 1500 coulombs based on the AASHTO T 277 Rapid Chloride Permeability test. Chloride resistance testing conducted quarterly using AASHTO T 277 Rapid Chloride Permeability Test during production will not be used for acceptance of previously accepted mixes and concrete masonry mixed and placed according to the contract requirements. For quarterly chloride resistance test results exceeding 1500 coulombs, the department may require adjustment of the concrete mix going forward to improve the chloride penetration resistance.

MODIFY STANDARD SPEC 715 AS FOLLOWS:

715.2.3.2 Structures

Replace paragraph two with the following:

- (2) Provide a minimum cementitious content of 540 pounds per cubic yard and a maximum cementitious content of 600 pounds per cubic yard. For all superstructure and substructure concrete, unless the engineer approves otherwise in writing, conform to one of the following:
1. Use class C fly ash or grade 100 or 120 slag as a partial replacement for Portland cement. For binary mixes use 15% to 30% fly ash or 20% to 30%

slag. For ternary mixes use 15% to 30% fly ash plus slag in combination. Percentages are stated as percent by weight of the total cementitious material in the mix.

2. Use a type IP, IS, or I(SM) blended cement.

Add the following subsection:

715.2.3.3 Trial Mixes

- (1) Develop and test each mix to be used for HPC Masonry Structures. Produce a laboratory trial mix for each mix, as well as a trial mix from each plant used to supply the project. Test all mixes at a department-qualified laboratory.
- (2) The laboratory trial mix data must include the results of the following tests:
 1. AASHTO T 119 Slump of Hydraulic Cement Concrete.
 2. AASHTO T 121 Mass per Cubic Foot, Yield
 3. AASHTO T 152 Air Content.
 4. AASHTO T 22 Compressive Strength.
 5. AASHTO T 277 Rapid Determination of the Chloride Permeability of Concrete, using the modified curing procedure according to 710.5.7(3) herein.
 6. AASHTO T 309 Temperature.
 7. Water Cement Ratio.
- (3) The 28-day compressive strength must be greater than or equal to 4000 psi. The 28-day results of the permeability test must be less than or equal to 1500 coulombs.

715.5.3 Structures

Replace standard spec 715.5.3 with the following:

- (1) The department will adjust pay for each lot using equation “QMP 2.03” as follows:

Percent within Limits (PWL)	Pay Adjustment ^[1] (dollars per cubic yard)
≥ 90 to 100	0
≥ 50 to < 90	$(7/8 \times \text{PWL}) - 78.75$
< 50	-35

- (2) For lots with less than four sublots, the department will assess a disincentive based on the individual subplot average strengths. The department will reduce pay for sublots with an average strength below 4000 psi by \$35 per cubic yard.

12.6. Anchor Bolt Assembly Light Pole, Item SPV.0060.700.

A Description

This special provision describes furnishing and installing anchor bolt assemblies for light poles as shown on the plans, and as hereinafter provided.

B Materials

Furnish anchors of the size and spacing as given on the plans, and that conform to AASHTO M 314 GR 55. The upper 12 inches of the bolts, nuts, and washers shall be hot-dipped galvanized in accordance to ASTM A153, Class C. Provide enlarged threads on nuts for proper fit after galvanizing.

C Construction

Provide the number of anchor bolts, nuts, washers, and anchor plate/template, as detailed on the plans and install per plan details.

D Measurement

The department will measure Anchor Bolt Assembly Light Pole as each individual anchor bolt assembly, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.700	Anchor Bolt Assembly Light Pole	Each

Payment is full compensation for furnishing and installing the anchorages.

)

12.7. Anchor Assemblies Noise Barriers Structures, Item SPV.0060.701.**A Description**

Furnish and install anchor bolt assemblies for noise barriers that will be installed on bridges and retaining walls as shown on the plans.

B Materials

Anchor bolts shall be of size and spacing as given on the plans and conform to AASHTO M 314 GR 105. Provide heavy hex nuts conforming to AASHTO M 292 and hardened washers conforming to AASHTO M 293. Provide embedded anchor plates for anchor assemblies as shown on the plans conforming to AASHTO M 223. Provide six nuts and washers per anchor bolt for Anchor Assemblies Light Pole Structures. Provide five nuts and washers per anchor bolt for Anchor Assemblies Noise Barriers Structures.

Hot dip galvanize the entire anchor assembly. Galvanize embedded anchor plates conforming to AASHTO M 111 and galvanize anchor bolts, nuts and washers conforming to AASHTO M 232. Provide enlarged threads on nuts for proper fit after galvanizing.

C Construction

Install embedded anchor assemblies in concrete structures at locations as shown on the plans. Mount anchor assemblies to formwork or otherwise provide positive support of

anchor assembly within formwork as necessary to prevent movement, shifting or misalignment of the anchor assembly during subsequent concrete placement. Protect or clean exposed anchor bolt threads from concrete splatter.

Coordinate location and spacing of anchor assemblies embedded in bridges and retaining walls for mounting noise barriers on bridges and retaining walls with approved noise barrier shop drawings.

D Measurement

The department will measure Anchor Assemblies Noise Barriers Structures by each individual anchor assembly, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.701	Anchor Assemblies Noise Barriers Structures	Each

Payment is full compensation for furnishing and installing the anchorages.

12.8. Bar Steel Reinforcement HS Stainless Bridges, Item SPV.0085.700.

A Description

This special provision describes furnishing and placing high strength stainless steel bar steel reinforcement in cut lengths as shown on the plans, and as hereinafter provided.

B Material

B.1 General

Reinforcement bars shall be deformed Grade 60, with a yield stress of 60,000 psi, meeting the requirements of ASTM A615, Standard Specifications for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement, ASTM A955, Standard Specification for Deformed and Plain Stainless Steel Bars for Concrete Reinforcement, standard spec 505, and the following.

B.2 Stainless Steel Requirements

The specified solid stainless steel can be as follows: Type 316L, Type 316LN, or 2205 Duplex stainless steel meeting the requirements of ASTM A240, ASTM A276, ASTM A479, ASTM A955, and ASME SA479 as applicable.

The stainless steel reinforcement bars shall meet the bending requirements of ASTM A615 and ASTM A955.

C Construction

Handle, store and place stainless steel bars in accordance to the applicable requirements of standard spec 505 except as herein modified.

Exercise care when handling bars to avoid damage to the bundles.

Equipment for handling bars shall have protected contact areas.

Off-load bars as close as possible to their points of placement or under the crane so that the bars can be hoisted to the areas of placement to minimize rehandling.

Store bars off the ground on protective cribbing. Use timbers placed between the bundles when stacking is necessary. Space supports sufficiently close to prevent sags in the bundles.

Store bars separately from black steel.

Do not flame cut stainless steel bars.

Use epoxy-coated steel or stainless steel wire supports, spacers, and tying wire.

Minimize or eliminate where possible contact between stainless steel bars and black bars.

Welding of stainless steel bars is prohibited.

D Measurement

The department will measure Bar Steel Reinforcement HS Bridges Stainless by the pound, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.700	Bar Steel Reinforcement HS Stainless Bridges	LB

Payment is full compensation for providing, transporting, storing and placing reinforcement including supports.

12.9. Fence Decorative Bridge, Item SPV.0090.500; Fence Decorative Wing, Item SPV.0090.501.

A Description

This special provision describes work consisting of fabricating, galvanizing, painting, delivering and installing decorative fencing on bridge superstructures and wingwalls.

B Materials

B.1 General

Provide materials meeting the requirements as shown on the plans and the applicable sections of the standard specifications as follows:

- Structural Steel: Standard spec 506.2.2
- Steel Mesh: Standard spec 505.2.5
- Painting: Standard spec 517.2 and 517.3

Prior to fabrication, blast clean steel per SSPC-SP 6 and galvanize steel according to ASTM A 123. All bolts, nuts and washers shall be supplied as factory galvanized according to ASTM A 153. Repair zinc coating damaged during fabrication as specified in standard spec 635.3.5. Grind the welded joints to a smooth finish where shown in the plans.

Steel preparation includes the chamfering of sharp edges. Flatten all sharp edges by a single pass of a grinder or suitable device along the sharp edge. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning.

The fence fabric shall consist of 10 GA. 2 inch by 2 inch welded wire mesh galvanized to ASTM A 123 and then painted with a pre-approved tie and top coat as given in this special provision. The vertical wires of the mesh shall be placed on the inside (Pedestrian/Traffic side) face of the fence.

B.2 Painting

Clean all galvanizing surfaces per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat matching the specified color. The tie and top coats should be of contrasting colors. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. The various decorative fence components shall be painted with the tie and top coats before final assembly of the fence panels. Care should be taken to not damage the painted surface during panel assembly or fence installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoat Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.2 Color

Provide a finished color for the coating system for decorative fencing matching Federal Color 27038, semi-gloss black.

C Construction

Provide shop drawings in accordance to the requirements of standard spec 506.3.2. Shop drawings shall contain material sizes and types, weld sizes and locations, and all necessary details, dimensions, and information to allow fabrication of the fence in conformance with the requirements of the contract. Do not begin fabrication prior to shop drawing review and acceptance.

Contractor shall provide a full sized painted 6 foot by 10 foot test panel for the fence. The test panel shall be ten feet long. The test panel shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303).within 60 days of the award of the contract. Unload and set up a test panel in an area designated by the engineer. Do not begin fabrication of fences prior to the test panel acceptance.

During construction and at the time of delivery the engineer will inspect the frame components. The engineer will accept the product after the delivery is unloaded on the site. After the product is unloaded, the installation contractor shall signify in writing that the fence was received in acceptable condition per the engineer's inspection. Any damage to the fence panels after the acceptable delivery will be the responsibility of the installation contractor.

Complete all welding in accordance to the applicable requirements of standard spec 506. No field welding, field cutting, or drilling will be permitted without the approval of the engineer.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer will approve the field paint appearance prior to final acceptance.

Provide the engineer with the name, address, and phone number of a representative of the fence fabricator for future coordination.

During handling, protect finish coating from damage. If damaged during handling the fencing may be rejected by the engineer or engineer may direct fabricator that the finish shall be repaired in accordance to the manufacturer's recommendations.

D Measurement

The department will measure Fence Decorative Bridge and Fence Decorative Wing by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.500	Fence Decorative Bridge	LF
SPV.0090.501	Fence Decorative Wing	LF

Payment is full compensation for fabricating painting, galvanizing and delivering test panel to site; fabricating, furnishing, delivering and unloading fence panels, lighting access panels, posts; installing fence posts and panels and hardware; for preparing shop drawings, painting, galvanizing metal fence components.

12.10. Architectural Surface Treatment, Item SPV.0165.500.

A Description

This special provision describes constructing a concrete masonry architectural surface treatment on the exposed concrete surfaces of cast in place structures, mechanically stabilized earth retaining walls and precast wall panels as detailed in the plans, and as hereinafter provided.

B Materials

Use reusable form liners that are made of highway strength urethane or lightweight one time use elastomeric foam form liners that attach easily to the forming system, and do not compress more than 1/4-inch when poured at a rate of 10 vertical feet/hour.

Formliner shall have a "used brick" running bond pattern with individual "brick" dimensions of 2 1/4 inches to 2 3/8 inches by 7 5/8 inches to 8 inches. Maximum relief of the brick formliner shall be 1/2".

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of ¾-inches from the finished concrete surface.

C Construction

C.1 Form Liner

Supply new form liner or reusable form liner with a used brick pattern. If reusable form liner is used, clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

Apply form release per manufacturer's recommendations.

C.3 Form Liner Attachment

Attach liner securely to forms in accordance to manufacturer's recommendations to maintain a continuous running bond pattern, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency where applicable.

C.4 Test Panel

Prepare and deliver to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303), a 4 foot by 4 foot concrete test panel utilizing the running bond brick form liner so the engineer will be able to evaluate the adequacy of the product and the forming methods to yield the desired results.

The engineer shall inspect condition of the Brick test panel and its dimensional quality. All voids and irregularities shall be repaired using the same methods as on the final structures. The engineer will evaluate the test panel for definition and consistency. If the test panel is accepted the workmanship becomes the standard for the balance of the contractors work and incorporation into the final structures.

If the test panel is not accepted, the contractor shall prepare another test panel and repeat the process, using either a different product or different methods. This procedure shall be repeated until the test panel is accepted by the engineer.

C.5 Surface Finishing

Grind or fill pouring blemishes.

D Measurement

The department will measure Architectural Surface Treatment by the square foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.500	Architectural Surface Treatment	SF

Payment is full compensation for creating and providing formliners; for forming and pouring a test panel on site; producing the proposed architectural surface treatment; finishing and protecting the surface treatment; and for properly disposing of surplus material and test panel.

12.11. Staining Concrete, Item SPV.0165.501.

A Description

Furnish and apply a two coat concrete stain to the exposed concrete surfaces of structures as detailed in the plans, and as hereinafter provided.

B Materials

B.1 Mortar

On pertinent surfaces, use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use of the following products:

Preblended, Packaged Type II Cement: Tri-Mix by TK Products
 Thoroseal Pearl Grey by Thoro Products

The mortar shall contain one of the following Acrylic Bonding Admixtures mixed and applied as given by the manufacturer:

Acrylic Bonding Admixture: TK-225 by TK Products
 Achro 60 by Thoro Products
 Achro Set by Master Builders

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces, consisting of a base coat and a pigments sealer finish coat. Use the following products, or equal as approved by the department, as part of the two-coat finish system:

Tri-Sheen Concrete Surfacer, smooth by TK Products
 Tri-Sheen Acrylic by TK Products
 *TK-1450 Urethane Anti-Graffiti Primer by TK Products
 TK-5272 Tri-Sheen Pigmented Stain
 Safe-Cure and Seal EPX by Chem Masters
 H + C Shield Plus Ultra by Sherwin Williams
 B-97 Series Concrete Sealer by Sherwin Williams
 B-97-200 Series Concrete Stain by Sherwin Williams
 (*Natural Look)

C Construction

Furnish, prepare, apply, cure and store all materials according to product manufacture directions specified for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.1 Preparation of Concrete Surfaces

On pertinent surfaces, provide a sack rubbed finish as given in standard spec 502.3.7.5 using mortar as indicated above, on concrete surfaces with open voids or honeycombing. Fill all voids larger than 3/4" diameter and finish to match surface pattern.

Prior to staining, clean all concrete surfaces to be stained to ensure that the surface is free of all laitance, dirt, dust, grease efflorescence, and any foreign material in order to accept the stain according to product requirements. At a minimum, the cleaning should consist of a 3000 psi water blast. Hold the nozzle of the water blaster approximately 6" from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed.

C.2 Staining Concrete Surfaces

Apply the stain in strict conformance with product manufacture requirements.

Apply the concrete stain when the temperature of the concrete surface is 45 degrees F or higher, or as given by the manufacturer.

The final color of the concrete following application of the stain system shall match the Sherwin Williams Color system. Sherwin Williams Color designation is for color only; all colors shall be a flat (lusterless) finish.

Base Color	Basket Beige – SW 6143
Accent Color 1	Virtual Taupe – SW 7039
Accent Color 2	Roycroft Copper Red – SW 2839
Accent Color 3	Rookwood Terra Cotta – SW 2803
Accent Color 4	Cajun Red – SW 0008
Accent Color 5	Meadow Lark – SW 7522
Accent Color 6	Black - SW 6258

Do not begin the staining the structure until adjacent operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.3 Test Areas

Prior to applying the stain to the structure, test applications shall be required on sample panels measuring 4-foot by 4-foot, and constructed to demonstrate workmanship in the use of the form liner reveals, protrusions and lettering on the structures. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining. Prepare the concrete surfaces of the sample panels

and apply stain using the same materials and in the same manner as proposed for the structure, including staining of the joints between stones produced by the form liner if applicable. Do not apply the stain to the structure until the department approves the test panels. Deliver test panels to the USH 41 field office at 1940 Mason Street, Green Bay, WI 54303.

C.4 Surfaces to be Coated

Apply the concrete stain to the surfaces as shown on the plan.

D Measurement

The department will measure Staining Concrete by the square foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.501	Staining Concrete	SF

Payment is full compensation for furnishing and applying the two-coat system; and for preparing the concrete surface and sample panels.

12.12. Staining Concrete Brick, Item SPV.0165.502.

A Description

Furnish and apply a single coat concrete stain to the concrete surfaces of structures that have the running brick pattern as detailed in the plans, and as hereinafter provided.

B Materials

B.1 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces.. Use the following products, or equal as approved by the department, as part of the finish system:

Tri-Sheen Acrylic by TK Products
TK-5272 Tri-Sheen Pigmented Stain
B-97-200 Series Concrete Stain by Sherwin Williams
(*Natural Look)

C Construction

Furnish, prepare, apply, cure and store all materials according to product manufacture directions specified for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.1 Preparation of Concrete Surfaces

Surfaces shall have the base color already applied before staining of the “brick areas can be completed. If the “brick” surface has not been coated with the base color do not apply the stain to the “brick” areas.

Prior to staining the “brick” areas, make sure all areas stained with the base color are clean and dry.

C.2 Staining Concrete Surfaces

Apply the stain in strict conformance with product manufacture requirements.

Apply the concrete stain when the temperature of the concrete surface is 45 degrees F or higher, or as given by the manufacturer.

The final color of the concrete following application of the stain system shall match the Sherwin Williams Color system. Sherwin Williams Color designation is for color only; all colors shall be a flat (lusterless) finish.

Accent Color 3	Rookwood Terra Cotta – SW 2803
Accent Color 4	Cajun Red – SW 0008
Accent Color 5	Meadow Lark – SW 7522

Brick surfaces shall be stained in a randomly mixed color arrangement Stain 70% of the “brick” surface with Accent Color 3, 15% with Accent Color 4 and 15% with Accent Color 5. Leave all previously stained recessed “mortar” joints as the Base Color (Basket Beige).

Do not begin the staining the structure until adjacent operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.3 Test Areas

Prior to applying the stain to the structure, test applications shall be required on sample panels measuring 3 foot by 4 foot to demonstrate stain application and color mix. Test panels shall be delivered to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303). Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure. Do not apply the stain to the structure until the department approves the test panels.

C.4 Surfaces to be Coated

Apply the concrete stain to the “brick” formlined surfaces as shown on the plan.

D Measurement

The department will measure Staining Concrete Brick by the square foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.502	Staining Concrete Brick	SF

Payment is full compensation for furnishing and applying the two-coat system; and for preparing the concrete surface and sample panels.

12.13. Longitudinal Grooving Bridge Deck, Item SPV.0165.700.**A Description**

Provide longitudinal deck grooves parallel to the centerline of the roadway prior to opening the bridge to traffic as directed by the engineer.

B Materials

The grooving machine shall contain blades mounted on a multi-blade arbor on a self-propelled machine built for grooving hardened concrete surfaces.

The grooving machine shall have a depth control device that detects variations in the deck surface and adjusts the cutting head height to maintain a specified depth of groove.

The grooving machine shall have a guide device to control multi-pass alignment.

C Construction

Perform longitudinal grooving operation in a manner to preclude any damage to the concrete deck surface.

Longitudinal grooving operation shall result in a uniformly grooved deck surface.

Cut grooves continuously across the deck width to within 18 inches of the barrier rail, curb line, or median divider. If metal floor drains extend more than 18 inches from the barrier rail, curb line, or median divider, all grooves on the bridge deck surface are to end within 6 inches of the floor drain perimeter.

At skewed metal edged expansion joints in the bridge deck surface, all grooves on the bridge deck surface are to end within 6 inches of the joint leaving no ungrooved surface adjacent to each side of the joint greater than 6 inches in width on the deck side of the expansion joints.

Produce grooves that are continuous across construction joints or other joints in the concrete deck surface less than 1/2-inch wide.

Grooves shall be 1/8-inch wide and 3/16-inch deep. The longitudinal groove shall be spaced at ¾ inches center-to-center. Tolerance for groove width shall be +1/16 inch to -0 inch. Tolerance for groove depth shall be ± 1/16 inch. Tolerance for groove spacing shall be ± 1/16 inch.

Collect, remove and dispose of solid material residue and liquid waste resulting from grooving operations by vacuuming in a manner satisfactory to the engineer.

D Measurement

The department will not measure Longitudinal Grooving Bridge Deck. The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.700	Longitudinal Grooving Bridge Deck	SF

Payment is full compensation for providing the required machinery and operators; and for grooving, for collecting, removing and properly disposing of all waste materials.

13. Retaining Walls, Ground Support.

13.1. Temporary Shoring, Item 206.6000.S.

A Description

This special provision describes designing and providing temporary shoring at locations the plans show.

B Materials

B.1 Shoring Design

Provide a shoring design for each location where the plan requires temporary shoring. Have a professional engineer, registered in the State of Wisconsin and knowledgeable of the specific site conditions and requirements, verify the adequacy of the design. Submit one copy of each shoring design, signed and sealed by the same professional engineer verifying the design, to the engineer for incorporation into the permanent project record.

C Construction

Provide temporary shoring at each required location conforming to the design developed for that location.

Remove the shoring when it is no longer needed unless the engineer allows it to remain in place. Backfill the space that is excavated but not occupied by the new permanent construction conforming to standard spec 206.3.13.

D Measurement

The department will measure Temporary Shoring by the square foot acceptably completed at locations the plans show, measured as the area of exposed face in the plane of the shoring from the ground line in front of the shoring to a maximum of one foot above the retained grade. Shoring used for staged construction in multiple configurations without removal and reinstallation will be measured once based on the configuration with the largest area of exposed face.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item.

ITEM NUMBER	DESCRIPTION	UNIT
206.6000.S	Temporary Shoring	SF

Payment is full compensation for designing and providing shoring; for providing a signed and sealed copy of the design; and for backfilling and removing the shoring.

The department will not pay for temporary shoring, installed for contractor convenience, that is not required in the plans.

206-005 (20110615)

13.2. Noise Barriers Single-Sided Sound Absorptive N-05-0010-01, Item 531.0200.S.900; N-05-0011-01, Item 531.0200.S.901; N-05-0010-02, Item 531.0200.S.902; N-05-0011-02, Item 531.0200.S.903; N-05-0012, Item 531.0200.S.904; N-05-0013, Item 531.0200.S.905; N-05-0014, Item 531.0200.S.906.

A Description

This special provision describes designing, fabricating, transporting, and erecting single-sided sound absorptive noise barriers in accordance to the plans, applicable portions of the standard specifications, the department-approved installation specifications, and as hereinafter provided.

B Materials

All materials used in the work shall conform to the pertinent requirements of the standard specifications and as hereinafter specified.

Provide grade A, A-2, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to section 501 of the standard specifications for concrete posts and the core component of composite concrete sound absorbing panels.

B.1 System Pre-Qualification

The noise wall system supplied must be pre-qualified by the department. The department maintains a list of pre-qualified systems which can be viewed at:

<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm> .

Systems eligible for use on this project shall be pre-qualified prior to the award of this contract.

B.2 Design

The department specifies pre-qualified single-sided sound absorptive noise barrier products on the department's approved product lists available at:

<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>

Provide the name of the selected system to the engineer within 25 days after award of the contract. Schedule a pre-design meeting with the engineer subsequent to award of the contract and prior to beginning design of the noise barrier. The suppliers of the noise barrier components shall attend this meeting.

B.2.1 Structural and Foundation Design

The structural and foundation design of the noise barrier system shall be in accordance to the current edition of "Guide Specifications for Structural Design of Sound Barriers published by the American Association of State Highway and Transportation Officials (AASHTO), 444 North Capitol Street, NW, Suite 225, Washington, DC 20001.

Design the noise barrier to withstand wind pressure, applied perpendicular to the barrier, in each direction, of 32 pounds per square foot for ground mounted barriers, and 42 pounds per square foot for structure mounted barriers.

The top 3-feet of supporting soil shall be ignored in the design of ground-mounted barrier foundations.

B.2.2 Fire Hose Access Openings

Design fire hose access openings, at locations shown on the plans, with additional reinforcement and protective coating around the opening as necessary to maintain structural integrity. Detail drawings shall show the additional reinforcement and method for attaching the Fire Hydrant Location Signs to the barrier panel.

B.2.3 Barrier Profile

Unless otherwise shown on the plan or approved by the engineer, design the top of the noise barrier to be horizontal and at or above the acoustic elevation line shown on the plans. The bottom elevation of the noise barrier shall be as shown on the plans. Changes in elevation shall be accomplished by stepping sections at posts. Steps shall not be smaller than 1 foot in height, nor exceed 3-feet in height. All joints shall be horizontal or vertical and shall be aligned with the adjacent panels.

B.2.4 Panel Orientation

Design the panels to prevent entrapment and ponding of water. Avoid inadvertently providing areas for perching, nesting of birds or collecting of dirt and debris in the design of the noise barrier system.

B.2.5 Surface Texture

Unless otherwise shown and provided for in the plans, wall pattern shall have a used brick running bond pattern with individual brick dimensions of 2 3/8 inches to 2 5/8 inches by 7 3/8 inches to 7 5/8 inches. Minimum relief of the brick form liner shall be 1/2 inch.

Highway side and residential side pattern shall be the same.

Noise barrier posts and panels shall be manufactured of the same materials throughout the project.

Supply and deliver to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303), a 3 foot by 4 foot concrete test for each panel type with the specified pattern. Obtain the engineer's acceptance of the panel's pattern prior to production of the panels required for the contract. The accepted pattern test panels shall remain on the project site in a readily accessible location for the duration of the project. The accepted pattern sample panels will be the standard for all noise barriers on the project.

B.2.6 Sound Transmission Loss (TL)

Design the noise barrier panel material to achieve a transmission loss equal to or greater than 20 decibels in all test frequency bands.

B.2.7 Noise Reduction Coefficient (NRC)

Design the noise barrier so that at least 70 percent of the highway side of the noise barrier panels that are 2-feet above the ground shall have a minimum NRC of 0.80. The remaining noise barrier panels on the highway side that are 2-feet or more above the ground shall have a minimum NRC of 0.70.

B.2.8 Structural Steel

Galvanize all structural steel after fabrication by the hot dip process in accordance to ASTM A123. Galvanize steel hardware and threaded fasteners, bolts, nuts, and washers in accordance to ASTM A153.

Shop coat all steel galvanized surfaces exposed to view with an approved paint system as hereinafter specified. Clean galvanizing surfaces to be painted per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning, provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized surface and prepare the surface for the top coat. Apply a top coat matching the finished color specified in B.2.5. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. Exercise care so as not to damage the painted surfaces during shipment and erection of the noise barriers.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer. Supply the engineer with the product data sheets before applying any coating. The product data sheets shall indicate the mixing and thinning directions, the recommended spray nozzles and pressures, the minimum drying time for shop applied coats, and the recommended procedures for coating galvanized bolts, nuts, and washers.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane, B65-650	2.0 to 4.0	NA
Carbolin 350 Hanley Industrial St Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.2.9 Design Coordination

B.2.9.1 Underground Utility and Drainage Crossings

Design the noise barrier post spacing so as not to interfere with the existing utility and drainage facilities.

Design the noise barrier post spacing so as not to interfere with proposed utility and drainage facilities shown in the plans. This includes proposed roadway lighting and ITS facilities.

B.2.9.2 Proposed Structures

For noise barriers mounted behind or near proposed retaining walls, coordinate and design the noise barrier post spacing so as to not interfere with embedded portion of the proposed retaining walls, including MSE wall soil reinforcement and tieback anchors on soldier pile and timber lagging retaining walls.

For noise barriers mounted on proposed bridges and retaining walls, coordinate and design the noise barrier post spacing to coincide with noise barrier post and embedded noise barrier anchor assembly spacing shown on the bridge and retaining wall plans.

Coordinate any required changes to the noise barrier post spacing and embedded noise barrier anchor assembly locations shown on the bridge and retaining wall plans, if required for the design of the noise barrier.

Noise Barrier	Structures
N-05-0010-01	R-05-214, B-05-629, R-05-215
N-05-0011-01	R-05-214, B-05-628, R-05-215
N-05-0010-02	R-05-216, B-05-631, R-05-217
N-05-0011-02	R-05-216, B-05-630, R-05-217
N-05-0012	R-05-51, R-05-218, B-05-635, R-05-219, R-05-53
N-05-0013	R-05-69, R-05-50, R-05-218, B-05-634, R-05-219, R-05-54
N-05-0014	R-05-71

See plans for exact locations

B.2.10 Weep Hole Openings

Design weep hole access openings in noise wall to allow water to drain at locations shown on the plans. Use 6" PVC Schedule 40 pipe sleeve conforming to ASTM D-1785. Epoxy 6" PVC Schedule 40 pipe sleeve into bored weep hole.

B.2.11 Maintenance Doors

Design maintenance doors in noise walls, at locations shown on the plans, with additional reinforcement and protective coating around the opening as necessary to maintain structural integrity.

B.3 Wall System Testing Requirements

All test reports required in section B.3 shall reference the specific facility which will be producing material for this contract. Test reports shall be representative of differing production lots on materials manufactured for this specific contract which is representative of the manufacturer's continuous production for wall systems. Panels tested or from which samples will be taken from shall be selected and appropriately marked by the engineer either at the manufacturer's plant or from panels delivered to the project at the engineer's option. Test reports will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. Testing shall be conducted on panels within the first 30,000 SF of production of each lot not exceeding 100,000 SF. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage. The first set of tests conducted for projects that do not exceed 100,000 SF shall be within the first third of the total square footage of the project.

Products tested should be tested as a system under the requirements in B.3.1 and B.3.2; this includes stain intended for the supplied concrete and composite concrete components wall panels.

B.3.1 Noise Reduction Coefficient (NRC)

The noise barrier panel shall be tested in accordance to ASTM C423, and placed in accordance to ASTM E795, mounting type A, to determine the noise reduction coefficient (NRC) of the material. Submit to the engineer an independent testing laboratory test report that shows that the noise barrier panels achieve an NRC as specified for the highway side of the barrier.

B.3.2 Salt Scaling Resistance

All sound absorbing composite concrete and composite concrete components shall be tested for salt scaling resistance in accordance to ASTM C672 and the following modifications and/or requirements:

B.3.2.1 Test Specimens

For the purposes of the test, three specimens of a full cross section of the composite panel at least 12 inches x 12-inches shall be selected at random from the provided composite panel as defined in B.3. Sample specimens shall be from production panels as selected and marked by the engineer, representative of the manufacturer's continuous production operation.

The surfaces of the sample specimen(s) shall be prepared for testing as follows. Brush the surfaces of the sample to remove any loose particles. The test specimens shall then be submerged in water for a period of 24 hours prior to testing. Immediately following this, the specimens shall be covered with the sodium chloride solution as stated below.

B.3.2.2 Test Procedure

Place samples in a 5 sided water tight container in which a solution of sodium chloride (concentration 3% by mass) fully submerges the specimen. A ¼- inch of sodium chloride solution shall be maintained above the top surface of the fully submerged specimen within the container.

The specimens shall then be subjected to continuous freeze-thaw cycles as follows:

After each five cycles, the salt solution and particles of deteriorated concrete shall be removed from the slab and collected in a watertight container. The operation is best accomplished by tilting the slab in a funnel approximately 20-inches in diameter and washing the surface of the slab with a 3% sodium chloride solution. This washing should continue until all loose particles are removed from the concrete. The solution shall then be strained through a filter and the residue dried out at 221 degrees Fahrenheit to a constant mass condition. The residue shall be cumulatively weighed after each five cycles. This residue shall be defined as the loss of mass and expressed in pounds per square foot of exposed slab area. This is to exclude the concrete core for composite concrete panels in the calculation of the area used to express the mass loss per square foot. The loss of mass shall be calculated to the nearest 0.01 pounds per square foot. The surfaces should be rated in accordance to 10.1.5 of ASTM C672 including any delamination of the sound absorbing material from the concrete core for composite concrete materials. After the washing of each slab, a new solution of sodium chloride

(concentration 3% by mass) shall be placed in the 5 sided water tight container to fully submerge the specimen to a depth of ¼-inch above the top surface of the fully submerged test specimen.

The test shall continue until 50 freeze-thaw cycles have been completed.

During the test each specimen shall be positioned and supported to allow free circulation of the test solution under, around, and over test pieces. The bottom of the specimens shall be supported on blocks in a manner to assure movement of moisture through and around the test specimen(s).

B.3.2.3 Test Report

Submit to the engineer an independent testing laboratory test report which shows that all solid and composite concrete products meet or exceed the following criteria:

- a. After 50 freeze-thaw cycles the test specimens shall not exhibit excessive deterioration in the form of cracks, spalls, aggregate disintegration, delamination or other objectionable features.
- b. Compliance with the test requirements is based upon a loss of mass of not more than 0.2 pounds per square foot from the surface after 50 cycles of freezing and thawing. The measured surfaces are not to include the exposed surface of any core material of a composite concrete component.
- c. The report shall include the following:
 1. Name of manufacturer.
 2. Location of production.
 3. Production description.
 4. Date product sample was cast.
 5. Commencement date of testing.
 6. Specimen identification.
 7. 5x7-inch color photographs of the test specimens before and after the 50 cycles of freeze-thaw test.
 8. A graph of the cumulative mass loss of each specimen plotted against the number of freeze-thaw cycles for 5, 10, 15, 20, 25, 30, 40, and 50 freeze-thaw cycles.
 9. Visual rating in accordance to 10.1.5 ASTM C672 including report of any delamination of the sound absorbing material from the concrete core for composite concrete components.

B.4 Wall Systems Material Requirement

Provide certification of compliance to all applicable requirements in B.4. All material certifications shall reference the specific facility manufacturing the material and this contract. Certifications will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage.

B.4.1 Sound Transmission Loss (TL)

Submit to the engineer certification of compliance that the sound transmission loss of the panel material, when tested in accordance to ASTM Standard E90, achieves a transmission loss as specified in B.2.6.

B.4.2 Structural Steel

Submit to the engineer certification of compliance that structural steel galvanized after fabrication is in accordance to ASTM A123. Steel posts of post and panel walls shall be galvanized. Any galvanized surfaces exposed to view shall be coated with an approved paint system as referenced in B.2.8.

B.4.3 Accelerated Weathering

Submit to the engineer certification of compliance that all coatings on barrier components, with the exception of structural steel and wood components comply with the following requirements when tested by ASTM Standard G155, G153, or G152 after 2400 hours of exposure on a cement based test specimen(s).

1. No checking when rated in accordance to ASTM D660.
2. No cracking when rated in accordance to ASTM D661.
3. No blistering when rated in accordance to ASTM D714.
4. No difference in adhesion between the unexposed control sample and an exposed sample when tested in accordance to ASTM D3359, Method A.
5. No chalking less than #7 rating when rated in accordance to ASTM D4214.
6. No color change greater than 5 NBS units when measured in accordance to ASTM D2244, using illuminant D65 and the 1964 10-degree standard observer.

B.4.4 Corrosion Resistance (Salt Fog Exposure)

Submit to the engineer certification of compliance that all coated steel components, with the exception of structural steel, has a coating system that has been tested for corrosion resistance in accordance to ASTM B117 and comply with the following requirements:

1. No checking when rated in accordance to ASTM D660.
2. No blistering when rated in accordance to ASTM D714.
3. No loss of adhesion when tested in accordance to ASTM D3359 with no evidence of corrosion along the edges of the samples or along the score lines, or both, or other defects.

B.4.5 Steel Panels

All steel panels shall be minimum nominal 20 gauge galvanized steel. The steel panels shall be free from laminations, blisters, slivers, open seams, pits from heavy rolled-in scale, ragged edges or other defects that may affect their appearance or use for the intended purpose. All shearing, cutting, and punching shall be done prior to preparation of the panels for application of coatings.

B.4.6 Aluminum Panels

All aluminum panels shall be minimum 0.063 inch nominal thickness or greater. The aluminum panels shall be free from laminations, blisters, slivers, open seams, pits from heavy rolled-in scale, ragged edges or other defects that may affect their appearance or use for the intended purpose. All aluminum panels shall conform to the thickness tolerances of the Aluminum Association, Inc. All shearing, cutting, and punching shall be done prior to preparation of the panels for application of coatings.

B.4.7 Timber Components

All lumber and timber furnished for the work shall be in accordance to the requirements of standard spec 507 and as hereinafter specified.

B.4.7.1 Species of Wood

All lumber and timber, with the exception of Glue Laminated Timber, shall be from one of the following species: Douglas Fir-Larch, Southern Pine, and Hem-Fir.

Glue laminated timber shall be Southern Pine.

B.4.7.2 Preservative Treatment

All timber components shall receive a chemical preservative treatment. The wood shall be dried to 19% or less prior to treatment. The wood shall be treated using a chromated-copper arsenate solution in accordance to standard spec 507.2.2.6. After treatment, all wood having nominal dimensions less than 3-inches by 3-inches shall be air or kiln dried to a maximum moisture content of 15%. Wood in greater dimensions shall be dried to maximum moisture content of 19%. The required Certificate of Preservative Treatment shall indicate compliance with the maximum moisture content requirement(s), in addition to requirements of the preservative treatment specifications herewith set forth. Wood shall be protected from increases in moisture content until incorporated into the work.

B.4.7.3 Glue Laminated Timber

Glue laminated timber shall contain the mark of a recognized inspection agency as being in conformance with ANSI/AITC A190.1. A wet-use adhesive suitable for use with treated wood as shown in ANSI/AITC A190.1 shall be used. Members shall be of Industrial appearance grade per AITC 110.

Lumber to be glue laminated shall be pressure preservative treated prior to gluing to a retention of 0.4 pounds per cubic foot.

B.4.7.4 Lumber

Non-laminated timber shall not exceed the proportion of six (nominal width) to one (nominal thickness) and shall be No. 1 grade or better. Sound knots shall extend through members no farther than 50 percent of the cross-section width. Unsound knots are not permitted. Knots are not permitted in the fastening area of any member.

B.4.7.5 Plywood

Plywood shall be exterior type conforming to the provisions of the US Product Standards PS-1 and shall bear the mark of a qualified and approved inspection and testing agency.

B.4.7.6 Sealant/Stain

All wood components of the barrier system shall be coated with a wood sealer/stain as hereinafter provided.

The manufacturer shall select a sealer/stain from one of the sources on the department's approved product list. Product data sheets shall be provided which indicate the mixing directions and recommended method(s) of application. The method and rate of application shall be as recommended by the producer.

B.4.7.7 Hardware and Fasteners

All hardware and fastening devices shall be either hot dipped galvanized steel or made of nonferrous or stainless steel. Fastening devices shall be screws; no nails or staples shall be allowed.

B.4.7.8 Mineral Fiber Material

Mineral fiber material used to increase sound absorption shall be manufactured in accordance to Federal Specification HH-1-558B and ASTM C612. Mineral fiber material shall have a minimum density of 6 pounds per cubic foot, shall absorb less than 1 percent of water when tested in accordance to ASTM C553, be non-corrosive, and nonhygroscopic. The mineral fiber material shall be fastened to the noise barrier system in a manner to prevent sagging when in a saturated condition.

C Construction**C.1 General**

Construct the noise barriers at the locations shown on the plans, in accordance to the contract specifications and design drawings and/or as directed by the engineer. All sound absorbing composite concrete components shall be delivered to the project site(s) as a finished component. A sound absorbing composite concrete system, which has the sound absorbing material glue-laminated or alternately affixed by a secondary adhesion method on the project site, will not be allowed.

Provide a minimum ten day notice to the engineer of the date that the fabrication of the noise barrier material will commence. Certifications and test reports will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. For projects that do not exceed 100,000 SF a minimum of 2 lots of material will represent the project, each lot representing equivalent square footage.

Panels from which samples will be taken for testing required in B.3 shall be selected and appropriately marked by the engineer either at the manufacturer's plant or from panels delivered to the project at the engineer's option. Test reports will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. Testing shall be conducted on panels within the first 30,000 SF of production of each lot not exceeding

100,000 SF. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage. The first set of tests conducted for projects that do not exceed 100,000 SF shall be within the first third of the total square footage of the project.

Inspect all materials delivered to the construction site for proper dimensions, honeycombing, cracks, voids, surface defects, consistency in color and texture, and any other damage or imperfections, prior to installation.

If any part of the noise barrier material fails to comply with any requirements of the contract specification, the component shall either be corrected, permanently marked as unacceptable and be disposed of by the contractor or accepted at a reduced price. The decision will be made by the engineer and is dependent on the severity of the specification deviation.

Erect noise barrier panels around existing light poles as to not damage the light pole in any way. Any repair required to fix the light pole from damage caused due to construction activities will be incidental.

C.2 Fire Hydrant Location Signs

Furnish and install fire hydrant location sign(s). These shall be attached to the noise barrier at each location shown on the plans by a method as shown on the department's approved drawings. The signs shall conform and be of the type specified in the department's sign plate book, plate D9-54 and/or D9-54A.

Compensation for placing the fire hydrant location signs shall be included in the contract price for Noise Barriers Single-Sided Sound Absorptive and no additional compensation therefore will be allowed.

Compensation for furnishing the fire hydrant location signs shall be paid for as Signs Type II.

C.3 Name Plates

Furnish and install name plates conforming to the requirements of standard spec 506.2.4.

Furnish and place one name plate on each noise barrier at the location indicated on the plans.

Rigidly attach each plate to the barrier by a means approved by the engineer.

Compensation for furnishing and placing of name plates shall be included in the contract price for Noise Barriers, Single-Sided Sound Absorptive Structure and no additional compensation therefore will be allowed.

C.4 Structure Mounted Noise Barriers

Do not erect noise barriers mounted to bridge or retaining wall structures until after the concrete masonry for bridge decks and parapets or retaining wall moment slabs and parapets have attained their specified 28-day strength.

For noise barriers mounted to moment slabs and parapets on top of MSE retaining walls, erection of the noise barrier is limited to two-thirds the height of the noise barrier acoustical line shown in the plans prior to placement of earth fill or pavement over the top of the moment slab as shown in the plans. Erection of the noise barrier in excess of two-thirds its height to the full height of the noise barrier acoustical line shown on the plans may not occur until after the earth fill or pavement structure over the top of the moment slab shown in the plans is complete.

C.5 Tolerances The posts and panels comprising the noise barrier shall be installed plumb within ½-inch of vertical in 15-feet. The posts shall be located to the line and grades as shown in the plans to within +/- ¾-inch. Horizontal joints of adjacent panels shall be lined up to a vertical tolerance of ¼-inch. Where vertical adjustments are required for alignment, a mortar base or steel shims shall be used. Galvanize and prime coat steel shims in accordance to B.2.8.

C.6.1 Submittals - Documents

Submit to the engineer, for acceptance and placing on file before commencing, the following information:

Submit three copies of the following documents to the engineer for review:

1. All structural and foundation design calculations.
2. Detailed design/shop drawings.
3. Certifications for all materials, including trade name of the products along with the name and address of the manufacturers.
4. Specifications regarding installation requirements and sequence of construction, including a detailed bill of materials.
5. Detailed colored plan of the aesthetic treatment for the entire noise barrier.

Submit the following documents to the Bureau of Structures Design Section:

Three sets of design/shop drawings and one set of design calculations for review and acceptance. Any necessary revisions and/or corrections required for acceptance will be noted and returned to the contractor.

Submit two copies of the following documents to the NE Region Office, Danielle Block, (920) 492-2212.

Detailed design/shop drawings.

Detailed colored plan of the aesthetic treatment for the entire noise barrier.

Design calculations shall be on 8½ x 11-inch sheets, neatly bound with a title sheet listing the complete project identification number and sound barrier designation. Design/shop drawings shall conform to the contract plans and the requirements of these special provisions. The design/shop drawings shall consist of plan and profile sheets, details,

explanatory notes, erection diagrams, aesthetic treatments, and other working plans. All dimensions, sizes of material, material information and other information necessary for the complete fabrication and construction of the noise barrier should be designated on the appropriate sheets. The design/shop drawings shall be drawn to an appropriate scale on reproducible sheets 11 x 17-inches including borders. Each sheet shall carry the complete project identification number and noise barrier designation. Design/shop drawings and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

C.6.2 Submittals – Documents Review Process

All documents, including drawings, calculations and related material submitted for review will be given final acceptance by the engineer.

It is expressly understood that the engineer's review and acceptance of the drawings, calculations, and related material, submitted by the contractor, means only an acceptance of the character and sufficiency of the details, and does not relieve the contractor from responsibility in regard to errors or omissions on said submittals.

The final accepted design documents and/or shop drawings shall become a part of the contract. Any substitution of materials or dimensions contemplated by the contractor's submitted documents, different from materials or dimensions shown on the contract plans, shall be made only when approved by the engineer, and in such case, additional costs resulting from such substitution shall be borne by the contractor.

Ordering of materials by the contractor prior to acceptance of the submittal requirements shall be at the contractor's own risk.

C.6.3 Submittals – Sample Panel

Produce one standard sample panel for acceptance of color and texture. Before any final panels are produced the 3 foot x 4 foot sample panel shall be reviewed and accepted by the US 41 team, Danielle Block, (920) 492-2212. If the panel is not acceptable, a second panel shall be produced and submitted for acceptance. Sample panel to be the standard of quality for precast panel work after acceptance. Test panels shall be delivered to the USH 41 field office, 1940 Mason Street, Green Bay, WI 54303, for checking purposes during production of project panels.

C.7 Weep Hole Openings

Furnish and install weep hole openings for drainage. These shall be in the wall at each location shown on the plan by a method of drilling a core through the wall after erection of the noise barrier to ensure draining through the wall. PVC pipe sleeve shall fit snugly in cored hole through wall. Epoxy PVC pipe sleeve into bored weep hole in noise barrier. Construct weep holes in accordance to construction detail. Weep holes shall be placed at the locations shown in the plans, unless approved by the engineer to adjust locations in order to fit field conditions. Engineer shall field verify the height and location of the weep hole so that the invert of the hole is at the low point.

D Measurement

The department will measure Noise Barriers Single-Sided Sound Absorptive (Structure), as set forth in the contract plans without measurement thereof. Any modifications to the contract quantity caused by corrections or revisions of the original contract plan, which have been approved by the engineer, will be measured by the square foot. This area in square feet will be determined by measuring the length in linear feet along the faces of the noise barrier, and height in linear feet from bottom to top of the noise barrier, then multiplying the measured length by the measured height, and the contract quantity will be adjusted accordingly to determine the final pay quantity.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
531.0200.S.900	Noise Barriers Single-Sided Sound Absorptive N-05-0010-01	SF
531.0200.S.901	Noise Barriers Single-Sided Sound Absorptive N-05-0011-01	SF
531.0200.S.902	Noise Barriers Single-Sided Sound Absorptive N-05-0010-02	SF
531.0200.S.903	Noise Barriers Single-Sided Sound Absorptive N-05-0011-02	SF
531.0200.S.904	Noise Barriers Single-Sided Sound Absorptive N-05-0012	SF
531.0200.S.905	Noise Barriers Single-Sided Sound Absorptive N-05-0013	SF
531.0200.S.906	Noise Barriers Single-Sided Sound Absorptive N-05-0014	SF

Payment is full compensation for preparing the design drawings and calculations; supplying and delivering samples and test barrier panels as required in B.2.5 and B.3; furnishing the manufacture, testing, supply, delivery of the noise barrier material including aesthetic patterns on panel and coloring concrete the base color, and coring wall and installing PVC weep holes sleeves, and placing; and for constructing the noise barriers, including site preparation, all necessary excavation, disposing of materials, constructing foundations, and erecting posts and panels, connecting the panels to light pole blisters, and connecting the panels to the side of bridge parapets and retaining walls.

13.3. Wall Wire Faced Mechanically Stabilized Earth, Item 532.0700.S.

A Description

This special provision describes designing, furnishing materials and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract.

This special provision describes the quality management program (QMP) for MSE walls. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of the MSE wall, which meets all the requirements of this provision.

This special provision describes contractor quality control (QC) sampling and testing for backfill density testing, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

B Materials

B.1 Proprietary Mechanically Stabilized Earth Wire Faced Wall Systems

The department specifies approved wire-faced mechanically stabilized earth wall products on the department's approved product list.

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system requiring pre-approval must have been pre-approved and added to that list prior to the bid opening date.

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of chapter 14 of the department's Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Design Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project

identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Mechanically Stabilized Earth Wire Faced Wall shall be in compliance with the latest AASHTO Standard Specification for Highway Bridges including interim specifications, the standard specifications, and standard engineering design procedures as determined by the department.

The design life for permanent wall applications shall be 75 years. All steel components of permanent walls shall be galvanized in accordance to ASTM A-123. A fine metallic screen and geotextile filter fabric shall be used at the front face of the MSE wall to retain the fines of the soil mass. The fine metallic screen may be made of stainless steel or galvanized steel per AASHTO M-111. The fine metallic screen should have an approximate opening of $\frac{1}{4}$ " and be made of 0.025" diameter (23 gauge) wire. The fine metallic screen shall be placed between the MSE wall wire facing and the geotextile fabric. The maximum allowable stress in the reduced section of wire-faced walls after sacrificial steel has been removed at the end of the design life is $0.47 F_y$, where F_y is the yield strength of the soil reinforcement. The minimum embedment of the MSE wire faced wall shall be 1 foot 6 inches, or as given in the plan, or as stated in AASHTO 5.8.1, whichever is greater. Frost depth shall not be considered. The overall vertical tolerance of the wall and the horizontal alignment tolerance shall not exceed 2 inches per 10 feet for permanent installations. For systems with separate components for soil reinforcement and wall panels, the force in the soil reinforcement at the face of the panel shall not exceed 0.5 of the connection strength failure load as determined by tests. For systems with connecting pins and without failure load tests, connecting pins shall be designed for both shear and bending moment and tension forces if applicable based on a load factor of 1.69.

The design of the MSE Wire Faced Wall shall consider the internal stability of the wall mass, including reinforcement pullout resistance. The design shall be in compliance with the current AASHTO specifications for Mechanically Stabilized Earth Walls, except that the maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees. Design the walls for the heights shown on the plans, and include the effects of highway surcharge loading. If a traffic rail or parapet is detailed within 3 feet of the top of the wall, the soil reinforcement at the top of the wall shall be designed for an additional horizontal traffic load as given in AASHTO. If the wall is installed in front of a bridge abutment, it shall also be designed to resist the applied abutment/bridge lateral forces. The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height or as shown on the plan. In no case shall this length be less than 8 feet. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases.

The design of the MSE Wire Faced Wall shall consider the presence of the deadmen and anchor blocks, rods, couplers, and clevises that connect to the prestressed precast concrete wall panels in front of the MSE wall. These items are designed to resist a minimum horizontal suction force of 20 psf of the exposed face of the prestressed precast concrete wall panel. The MSE wall shall be designed to resist these additional horizontal forces from the deadmen. The deadmen anchorages are designed with sufficient capacity to fully perform if one connection per panel fails.

The design of the MSE Wire Faced Wall shall include design of soil reinforcement and anchorages to abutment within the reinforced zone if so shown in the plan.

B.3 Wall System Components

B.3.1 Welded Wire Fabric

Provide welded wire fabric that is used to fabricate the wire-faced wall that has a yield stress of 65,000 psi. All steel shall be shop fabricated of cold drawn steel wire conforming to the minimum requirements of ASTM A-82 and be welded into the finished configuration in accordance to ASTM A-185. Replace welded wire fabric that has been damaged during handling, placing or backfilling at the direction of the engineer, at no expense to the department. Any geotextiles used in the construction of the wall and exposed to the sun for more than 60 days shall be resistant to ultraviolet radiation or covered and protected from the sun.

B.3.2 Backfill

Furnish and place backfill for mechanically stabilized earth concrete panel walls as shown on the plans and as hereinafter provided.

Provide and use backfill that consists of natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. It shall not contain recycled or milled asphalt, recycled concrete, foundry sand, bottom ash, blast furnace slag or other potentially corrosive material.

Provide material conforming to the following gradation requirements as per AASHTO T27.

Sieve Size	Percentage by Weight Passing
1 inch	100
No. 40	0 - 60
No. 200	0 - 15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	5 – 10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Organic Content	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99)

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. Additional certified report of tests (except Angle of Internal Friction test), are required for every 2000 cubic yards of backfill used per wall. In addition, when backfill characteristics and/or sources change, a certified report of all tests will be provided for the new backfill material.

C Construction

C.1 Methods

All excavation and preparation of the foundation for the reinforcing fabric shall be in accordance to standard spec 206. Excavate as necessary to install the reinforcing straps, wall fill and facing. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store any materials or large equipment within 10 feet of the back of the wall. Stagger vertical joints in the welded wire facing.

Compact all backfill behind the wall as specified in standard spec 207.3.6. For walls with a maximum height greater than 6 feet, compact the backfill to 95.0% of maximum density as determined by AASHTO T-99, Method C. Perform compaction testing on the backfill.

Extend the wire face, backing mat or retention fabric under the coping or moment slab to seal off the cavity between the wire face and the Prestressed Precast Concrete Wall Panels. Provide means to seal off the ends of the cavity space.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

C.2 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completing the excavation of the entire reinforced zone, the department's Regional Soils Engineer shall inspect the site and determine if the foundation is adequate for the intended loads. Allow the Regional Soils Engineer two working days to perform the inspection.

C.3 Quality Management Program

C.3.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.

C.3.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a nuclear density technician certified under HTCP at level I perform field density and field moisture content testing.

If an Assistant Certified Technician (ACT) is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

C.3.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at <http://www.atwoodsyste.ms.com/materials>. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department

C.3.4 Quality Control (QC) Testing

Perform compaction testing on the backfill. Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a grading technician certified under HTCP at level I present at the site during all wall backfill operations, compaction, and nuclear testing activities. Have a nuclear density technician certified under HTCP at level I, or ACT certified technician, perform field density and field moisture content testing. Conform to CMM 8.15 for testing and gauge monitoring methods. The QC technician must retain a split sample for the region and deliver it to the region laboratory within 72 hours. Conduct testing at a minimum frequency of 1 test per 50 cubic yards of backfill, or major portion thereof. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Perform 1 gradation and 5-point Proctor test every 750 cubic yards of fill and provide the region a split sample within 72 hours at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

C.3.5 Department Testing

C.3.5.1 General

The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

C.3.5.2 Quality Verification (QV) Testing

The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.3.4 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

The department will conduct QV tests at the minimum frequency of 30% of the required contractor density and gradation tests.

The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will split each QV sample, testing half for QV, and retaining the remaining half for 10 business days.

The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.

The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, section 106.5 of the standard specifications will apply.

C.3.5.3 Independent Assurance (IA)

Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. Reviewing required worksheets and control charts.
6. Requesting that testing personnel perform additional sampling and testing.

If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in C.3.5.4.

C.3.5.4 Dispute Resolution

The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.

Production test results, and results from other process control testing, may be considered when resolving a dispute.

If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

D Measurement

The department will measure Wall Wire Faced Mechanically Stabilized Earth in area by the square foot of face on a vertical plane between the finished grade in front of the wall shown on the plan, and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Unless ordered by the engineer, wall area constructed above or below these lines will not be measured for payment.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
532.0700.S	Wall Wire Faced Mechanically Stabilized Earth	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling, and compacting, performing compaction testing; performing material testing, providing for the installation of the deadmen anchor system; soil reinforcement behind the bridge abutment, provide for the coordination and access of others for their work in the area; and for furnishing all tools, labor, equipment, and incidentals necessary to complete the contract work. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.

13.4. Temporary Wall Wire Faced Mechanically Stabilized Earth, Item 532.0750.S.

A Description

This special provision describes designing, furnishing materials and erecting a temporary earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract.

B Materials

B.1 Proprietary Mechanically Stabilized Earth Wire Faced Wall Systems

The department specifies approved temporary wire faced mechanically stabilized earth wall products on the department's approved product list.

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Development Section. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system requiring pre-approval must have been pre-approved and added to that list prior to the bid opening date.

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of chapter 14 of the department's Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Development Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8 ½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Mechanically Stabilized Earth Wire Faced Wall shall be in compliance with the latest AASHTO Standard Specification for Highway Bridges including interim specifications, the standard specifications, and standard engineering design procedures as determined by the department.

The design life shall be a minimum of three years. A fine metallic screen or geotextile filter fabric shall be used at the front face of the wall to retain the fines of the soil mass. The maximum allowable stress in the reduced section of wire-faced walls after sacrificial steel has been removed at the end of the design life is $0.47 F_y$, where F_y is the yield strength of the soil reinforcement. The minimum embedment of the MSE wire faced wall shall be 1 foot 6 inches, or as given in the plan, or as stated in AASHTO 5.8.1, whichever is greater. Frost depth shall not be considered. The overall vertical tolerance of the wall and the horizontal alignment tolerance shall not exceed 3 inches per 10 feet. For systems with separate components for soil reinforcement and wall panels, the force in the soil reinforcement at the face of the panel shall not exceed 0.5 of the connection strength failure load as determined by tests.

The design of the MSE Wire Faced Wall shall consider the internal stability of the wall mass, including reinforcement pullout resistance. The design shall be in compliance with the current AASHTO specifications for Mechanically Stabilized Earth Walls, except that the maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without certified test values. Design the walls for the heights shown on the plans, and include the effects of highway surcharge loading. If a traffic rail or parapet is detailed within 3 feet of the top of the wall, the soil reinforcement at the top of the wall shall be designed for an additional horizontal traffic load as given in AASHTO. The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height or as shown on the plan. In no case shall this length be less than 6 feet. The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases.

B.3 Wall System Components

B.3.1 Welded Wire Fabric

Provide welded wire fabric that is used to fabricate the wire-faced wall that has a yield stress of 65,000 psi. All steel shall be shop fabricated of cold drawn steel wire conforming to the minimum requirements of ASTM A-82 and be welded into the finished configuration in accordance to ASTM A-185. Replace welded wire fabric that has been damaged during handling, placing or backfilling at the direction of the engineer, at no expense to the department. Any geotextiles used in the construction of the wall and finally exposed to the sun shall be resistant to ultraviolet radiation for the life of the wall.

B.3.2 Backfill

Provide and use material that consists of natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. It shall not contain foundry sand, bottom ash, blast furnace slag or other potentially corrosive material.

Provide material that conforms to the following gradation requirements.

Sieve Size	Percentage by Weight Passing
1 inches	100
No. 40	0 – 60
No. 200	0 - 15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90.

In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	4.5 – 10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Angle of Internal Friction	AASHTO T-236	30 degrees min.

Prior to placement of the backfill, obtain and furnish to the engineer certified test results that the backfill material complies with the requirements of this specification. Tests will be performed by a certified independent lab.

C Construction

C.1 Methods

All excavation and preparation of the foundation for the reinforcing fabric shall be in accordance to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the bottom of the wall unless shown or noted otherwise on the plan. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store any materials or large equipment within 10 feet of the back of the wall. Stagger vertical joints in the welded wire facing.

Compact all backfill behind the wall as specified in standard spec 207.3.6. For walls with a maximum height greater than 6 feet, compact the backfill to 95% of maximum density as determined by AASHTO T-99, Method C or D. Perform compaction testing. When performing nuclear testing, use a nuclear gauge from the department's approved list, ensure that the operator is a HTCP certified Nuclear Density Technician I, and conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 2-foot layer per 200 feet of wall, or major portion thereof. Deliver documentation of all compaction testing results to the engineer at the time of testing. The cost of compaction testing shall be considered incidental to the cost of the wall.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill.

C.2 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. The allowable soil bearing capacity is given on the plan. After completion of excavation, the department's Regional Soils Engineer shall inspect the site and shall determine if the foundation is adequate for the intended loads. Allow the Regional Soils Engineer two working days to perform the inspection.

D Measurement

The department will measure Temporary Wall Wire Faced Mechanically Stabilized Earth in area by the square foot of face on a vertical plane between a line 1 foot 6 inches below the finished grade in front of the wall shown on the plan and a line indicating the top of wall including wall cap or copings as required and shown on the plans. Unless ordered by the engineer, wall area constructed above or below these lines will not be measured for payment.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
532.0750.S	Temporary Wall Wire Faced Mechanically Stabilized Earth	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system; providing backfill, backfilling, and performing compaction testing; and for furnishing all tools, labor, equipment, and incidentals necessary to complete the contract work. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.

13.5. Fire Department Connectors, Item SPV.0060.900.

A Description

This special provision describes furnishing and installing the fire department connectors as shown on the plans and as hereinafter provided.

B Materials

Furnish steel pipe conforming to standard spec 506.2.3.6 with a nominal inner diameter of 4-inches.

Furnish carbon steel Schedule 80 pipe meeting all requirement of ASTM A53 B with a nominal inner diameter of 4-inches. The pipe shall be rated for a minimum of 1000 pounds per square inch of working pressure at 400° F.

Furnish Storz couplings with locking caps as required by the plans. The Storz couplings shall be rated for a minimum of 200 pounds per square inch of working pressure meeting NFPA 1963 standards for fire hose connections. Locking caps for the Storz shall be Knox StorzGuard Caps, Item 5002 5” StorzGuard – Dark, Hard Anodized Aluminum keyed to a #112 key.

C Construction

Install the connectors on designated structures and in the locations shown in the plans.

Place connector about 3 feet (1 meter) above finished ground in the middle of a panel as shown in the plans, slightly tipped toward the valve side to provide for drainage. The assembled unit shall be able to maintain a pressure of 200 psi (1,379 kPa) for two hours without leaking.

D Measurement

The department will measure Fire Department Connectors by each individual unit in place, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.900	Fire Department Connectors	Each

Payment is full compensation for furnishing and installing Fire Department Connectors; Knox StorzGuard Cap, Item 5002 5” StorzGuard – Hard, Anodized Aluminum with #112 key, along with connection hardware to noise barrier, and for furnishing all labor, tools, equipment and incidentals necessary to complete the work.

13.6. Standpipe System, Item SPV.0060.901.

A Description

This special provision describes furnishing and installing a dry standpipe water delivery system on designated structures as shown on the plans and as specified herein.

B Materials

Furnish steel pipe conforming to standard spec 506.2.3.6 with a nominal inner diameter of 4-inches.

Furnish carbon steel Schedule 80 pipe meeting all requirement of ASTM A53 B with a nominal inner diameter of 4-inches. The pipe shall be rated for a minimum of 1000 pounds per square inch of working pressure at 400° F.

Furnish pre-manufactured bends and couplings as required by the plans. The bends and couplings shall be rated for a minimum of 700 pounds per square inch of working pressure.

Furnish storz couplings with locking caps as required by the plans. The storz couplings shall be rated for a minimum of 150 pounds per square inch of working pressure meeting NFPA 1963 standards for fire hose connections. Locking caps for the storz shall be Knox StorzGuard Caps, Item 5002 5" StorzGuard – Dark, Hard Anodized Aluminum keyed to a #112 key.

Steel pipe, bends, and couplings shall be painted with a corrosion resistant paint that is resistant to acids, alkalies, solvents, salts, and water. The paint color shall be Basket Beige SW 6143 (Sherwin Williams color chart) and shall be able to be field applied depending on temperature. It shall be of one component and shall not require mixing of multiple components and shall be applicable by brushing, dipping, rolling, or spraying.

Furnish steel pipe hangers and clamp assemblies for attaching and anchoring the standpipe system to the structure. Furnish stainless steel anchor brackets, clamps and fittings for anchoring stainless steel pipe. Furnish stainless steel or steel conforming to ASTM A709, Grade 36 anchor brackets, clamps and fittings for anchoring steel pipe. Blast clean and zinc coat all ASTM A 709 Grade 36 steel anchor components according to ASTM A 123. Provide stainless steel anchor bolts, structural bolts, nuts and washers conforming to standard spec 513.2.2.5 for all hanger and clamp assemblies.

C Construction

C.1 General

Install the pipe, bends, expansion devices and connectors on designated structures and in the locations shown in the plans.

Design, furnish and install a pipe anchoring system to adequately anchor the standpipes to the designated structure. Attach anchor assemblies for horizontal pipe runs located under bridge decks to the bridge deck using cast in threaded inserts, sized and spaced to accept the threaded anchor rods of the furnished anchor assemblies. Attach anchor assemblies for vertical pipe runs located along pilasters, walls, columns and pier caps using engineer-approved adhesive anchors. Space anchor assemblies along the length of pipe runs a maximum of 8 feet or as required to adequately anchor the pipe assuming it is completely filled with water and pressurized.

C.2 Painting

Submit material cut sheets, as required in these special provisions, for the paint to be applied for approval prior to applying to any materials.

Apply paint following all manufacturer recommendations for material preparation. Paint may be applied prior to delivering materials to project area. If paint is applied in project area, all manufacturer recommendations, including those regarding temperature and

drying time must be observed. Upon final installation of the pipe, bends, and fittings, all materials must be touched up wherever paint has chipped or cracked.

C.3 Shop Drawings

Prepare and submit shop drawings of the entire dry standpipe system to the engineer in accordance with standard spec 506.3.2.

C.4 Testing

Test the completed installed system for water tightness to 150 pounds per square inch using a pressurized air test. The system shall be pressurized air to 125% or the equivalent water pumping pressure with an attached dial pressure gage. The system will be deemed acceptable if it maintains 95% of the specified applied air pressure after 24 hours.

If the system does not maintain 95% of the specified air pressure after 24 hours, the contractor must locate and remedy all leaks and retest until an acceptable test result is obtained. If required, the cost of repairs to satisfy the pressurized air test are included in the pay item and will be at no additional cost to the department nor will any request for contract time extension as a result of time delays for repairs and additional tests be granted.

D Measurement

The department will measure Standpipe System by the each with the pipe, anchor assemblies, bends, connectors, and Storz couplings installed and tested.

E Payment

The department will pay for the measured quantity at the contract unit price under the following item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.901	Standpipe System	Each

Payment is full compensation for furnishing and installing Standpipe System Steel Pipe; furnishing and installing all connectors bends, and Storz couplings; Knox StorzGuard Cap, Item 5002 5" StorzGuard – Hard, Anodized Aluminum with #112 key, designing, furnishing and installing pipe anchors; pressurized air acceptance testing; shop drawing preparation and submittal; for terminating connecting the pipe to fittings; and for all labor, tools, equipment and incidentals necessary to complete the work.

13.7. Maintenance Doors, Item SPV.0060.904.

A Description

This special provision describes designing, furnishing and installing the maintenance doors as shown on the plans and as hereinafter provided.

B Materials

B.1 Hardware

The maintenance door and associated material indicated will consist of the following:

Maintenance door shall be 3' X 7.5' hollow structural section conforming to ASTM A500, Grade B. The door panels shall be the same construction as the noise wall panels and shall have the same brick pattern aesthetic treatment as the noise barrier panels.

Hinges shall provide sufficient width to permit the door to swing 180° and be flush bearing design. Fabricate door hinges from pipes conforming to ASTM A53, Grade B, and pins conforming to ASTM A36.

Provide adjustable tension rods of ASTM A36, where required, to ensure doors are square.

Access shall be from the outside of the noise barrier only. The door shall be self-latching with a pad lockable hasp and provided with a large handle to ease the opening of the door.

Keys for the maintenance doors shall be keyed alike for the US 41 project.

All hardware for the maintenance doors shall be weather resistant to corrosion.

Hot-dip galvanize all steel components of the door according to ASTM A123.

B.2 Design

The design of the maintenance door shall be supplied by the pre-qualified single-sided absorptive noise barrier vendor.

Provide the name of the selected system to the engineer within 25 days after the award of the contract. Schedule a pre-design meeting with the engineer subsequent to award of the contract and prior to beginning design of the noise barrier maintenance door. The suppliers of the noise barrier components shall attend this meeting.

B.3 Painting

The final color of the maintenance door shall match the noise barrier panels.

C Construction

Doors and frames for Maintenance Doors shall be installed in accordance to the approved shop drawings. The finish hardware shall be installed in accordance to the manufacture's installation instructions.

The integrity of the sound barrier continuity, including the maintenance door, shall be such that no light passes through any vertical or horizontal joint in the system, or between the system and the ground.

D Measurement

The department will measure Maintenance Doors by each individual unit in place, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.904	Maintenance Doors	Each

Payment is full compensation for designing, furnishing and installing the Maintenance Door; and for furnishing and installing connections to noise walls.

13.8. Fence Decorative Wall, Item SPV.0090.502.

A Description

This special provision describes work consisting of fabricating, galvanizing, painting, delivering and installing decorative fencing on bridge superstructures and wingwalls.

B Materials

B.1 General

Provide materials meeting the requirements as shown on the plans and the applicable sections of the standard specifications as follows:

- Structural Steel: Standard spec 506.2.2
- Steel Mesh: Standard spec 505.2.5
- Painting: Standard spec 517.2 and 517.3

Prior to fabrication, blast clean steel per SSPC-SP 6 and galvanize steel according to ASTM A 123. All bolts, nuts and washers shall be supplied as factory galvanized according to ASTM A 153. Repair zinc coating damaged during fabrication as specified in standard spec 635.3.4. Grind the welded joints to a smooth finish where shown in the plans.

Steel preparation includes the chamfering of sharp edges. Flatten all sharp edges by a single pass of a grinder or suitable device along the sharp edge. Condition any thermal cut edges before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning.

The fence fabric shall consist of 10 GA. 2 inch by 2 inch welded wire mesh galvanized to ASTM A 123 and then painted with a pre-approved tie and top coat as given in this special provision. The vertical wires of the mesh shall be placed on the inside (Pedestrian/Traffic side) face of the fence.

B.2 Painting

Clean all galvanizing surfaces per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils

suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat matching the specified color. The tie and top coats should be of contrasting colors. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. The various decorative fence components shall be painted with the tie and top coats before final assembly of the fence panels. Care should be taken to not damage the painted surface during panel assembly or fence installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330.1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644.1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.2 Color

Provide a finished color for the coating system for decorative fencing matching Federal Color 27038, semi-gloss black.

C Construction

Provide shop drawings in accordance to the requirements of standard spec 506.3.2. Shop drawings shall contain material sizes and types, weld sizes and locations, and all necessary details, dimensions, and information to allow fabrication of the fence in conformance with the requirements of the contract. Do not begin fabrication prior to shop drawing review and acceptance.

Contractor shall provide a full sized painted 6 foot by 10 foot test panel for the fence. The test panel shall be ten feet long. The test panel shall be delivered to the job site within 60 days of the award of the contract. Unload and set up a test panel in an area designated by the engineer. Do not begin fabrication of fences prior to the test panel acceptance.

During construction and at the time of delivery the engineer will inspect the frame components. The engineer will accept the product after the delivery is unloaded on the site. After the product is unloaded, the installation contractor shall signify in writing that the fence was received in acceptable condition per the engineer's inspection. Any damage to the fence panels after the acceptable delivery will be the responsibility of the installation contractor.

Complete all welding in accordance to the applicable requirements of standard spec 506. No field welding, field cutting, or drilling will be permitted without the approval of the engineer.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer will approve the field paint appearance prior to final acceptance.

Provide the engineer with the name, address, and phone number of a representative of the fence fabricator for future coordination.

During handling, protect finish coating from damage. If damaged during handling the fencing may be rejected by the engineer or engineer may direct fabricator that the finish shall be repaired in accordance to the manufacturer's recommendations.

D Measurement

The department will measure Fence Decorative Wall by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.502	Fence Decorative Wall	LF

Payment is full compensation for fabricating painting, galvanizing and delivering test panel to site; fabricating, furnishing, delivering and unloading fence panels, lighting access panels, posts; installing fence posts and panels and hardware; and for preparing shop drawings, painting, and galvanizing metal fence components.

13.9. Railing, Item SPV.0090.850.

A Description

This special provision describes work consisting of fabricating, painting, delivering and installing railings on top of retaining walls and in turf areas where the sidewalk (multi-purpose path) is located above the retaining wall.

B Materials

B.1 General

Provide materials meeting the requirements as shown on the plans and the applicable sections of the standard specifications as follows:

- Painting: Standard spec 517.2 and 517.3

Prior to fabrication, blast clean steel per SSPC-SP 6 and galvanize steel according to ASTM A 123. Repair zinc coating damaged during fabrication as specified in standard spec 635.3.4. Grind the welded joints to a smooth finish where shown in the plans.

Steel preparation includes the chamfering of sharp edges. Flatten all sharp edges by a single pass of a grinder or suitable device along the sharp edge. Condition any thermal cut edges to be painted before blast cleaning by shallow grinding or other cleaning to remove any hardened surface layer. Remove all evident steel defects exposed in accordance to AASHTO M 160 prior to blast cleaning.

Epoxy paint coating system shall be in accordance to epoxy paint coating system for structural steel, as shown on the department's approved list.

B.2 Painting

Clean all galvanizing surfaces per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning, provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized rail and prepare the surface for the top coat. Apply a top coat matching the specified color. The tie and top coats should be of contrasting colors. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. The various decorative fence components shall be painted with the tie and top coats before final assembly of the fence panels. Care should be taken to not damage the painted surface during panel assembly or fence installation.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330.1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane , B65-650	2.0 to 4.0	NA
Carboline 350 Hanley Industrial St. Louis, MO 63144 (314) 644.1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.2 Color

Provide a finished color for the coating system for railing matching Federal Color 27038, semi-gloss black.

C Construction

Provide shop drawings in accordance to the requirements of standard spec 506.3.2. Shop drawings shall contain material sizes and types, weld sizes and locations, and all necessary details, dimensions, and information to allow fabrication of the fence in conformance with the requirements of the contract. Do not begin fabrication prior to shop drawing review and acceptance by the engineer.

During construction and at the time of delivery the engineer will inspect the railing sections for proper fabrication and painting. The engineer will accept the product after the delivery is unloaded on the site. After the product is unloaded, the installation contractor shall signify in writing that the railing was received in acceptable condition per the engineer's inspection. Any damage to the railing after the acceptable delivery will be the responsibility of the installation contractor.

Complete all welding in accordance to the applicable requirements of section 506 of the standard specifications. No field welding, field cutting, or drilling will be permitted without the approval of the engineer.

Take special care during construction to minimize the number and size of touch-up spots. Follow the manufacturer's recommendations for damaged area repairs. The engineer will approve the field paint appearance prior to final acceptance.

Provide the engineer with the name, address, and phone number of a representative of the railing fabricator for coordination.

During handling, protect finish coating from damage. If damaged during handling the railing may be rejected by the engineer or engineer may direct fabricator that the finish shall be repaired in accordance to the manufacturer's recommendations.

D Measurement

The department will measure Railing by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.850	Railing	LF

Payment is full compensation for furnishing and installing railing, masonry anchor bolts, concrete setting base and all materials.

13.10. Architectural Surface Treatment, Special, Item SPV.0165.503.

A Description

This special provision describes constructing a custom design concrete masonry architectural surface treatment on the exposed vertical concrete surfaces of cast in place structures, mechanically stabilized earth retaining walls and precast wall panels as detailed in the plans, and as hereinafter provided.

B Materials

Use one time use form liners of urethane or elastomeric foam that attach easily to the forming system and do not compress more than 1/4-inch when poured at a rate of 10 vertical feet/hour.

Formliner shall have the custom designs and relief as indicated in the plans.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of 3/4-inches from the finished concrete surface.

C Construction

C.1 Form Liner

Supply new form liner for each custom design. Visually inspect each liner for blemishes, tears, or indentations and repair such imperfections before use.

Contractor shall provide engineer with the name, address, and phone number of the formliner fabricator for future coordination.

Electronic files of custom formliners may be obtained by contacting:

WisDOT
Project Manager
South Segment (Design IDs 1133-06-00 and 1133-09-00)
Kurt Peters
(920) 492-2213
Kurt.Peters@dot.wi.gov

WisDOT
Project Manager
Central Segment (Design IDs 1133-03-02, 9202-07-01, and 9202-07-02)
North Segment (Design ID 1133-10-00)
Paul Vraney
(920) 492-2232
Paul.Vraney@dot.wi.gov

C.3 Form Liner Attachment

Attach liner securely to forms in accordance to manufacturer's recommendations to maintain a continuous pattern between panels, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency where applicable.
Apply form release per manufacturer's recommendations.

C.4 Test Panel

Prepare and deliver to the USH 41 field office (1940 Mason Street, Green Bay, WI 54303), a 4 foot by 4 foot concrete test panel utilizing a portion of the design form so the engineer will be able to evaluate the adequacy of the product and the forming methods to yield the desired results.

The engineer shall inspect condition of the test panel and its dimensional quality. All voids and irregularities shall be repaired using the same methods as on the final structures. The engineer will evaluate the test panel for definition and consistency. If the test panel is accepted the workmanship becomes the standard for the balance of the contractors work and incorporation into the final structures.

If the test panel is not accepted, the contractor shall prepare another test panel and repeat the process, using either a different product or different methods. This procedure shall be repeated until the test panel is accepted by the engineer.

C.5 Surface Finishing

Grind or fill pouring blemishes.

D Measurement

The department will measure Architectural Surface Treatment, Special by the square foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.503	Architectural Surface Treatment, Special	SF

Payment is full compensation for manufacturing and furnishing formliners; for forming and pouring a test panel; producing the proposed architectural surface treatment on the specified vertical concrete surfaces; finishing and protecting the surface treatment; properly disposing of surplus material.

13.11. Prestressed Precast Concrete Wall Panel, Item SPV.0165.850.

A Description

This special provision describes constructing precast prestressed concrete wall panels with heights and patterns as shown on the plans including product design, fabrication, transportation, erection, anchorage and other related items.

These specifications provide for prestressing concrete panels by the pretensioning method. In this method, stress the reinforcing tendons initially, then place and cure the concrete and release the stress from the anchorages to the concrete after developing specified concrete strength.

Design shall be in accordance to the AASHTO Standard Specification for Highway Bridges and applicable codes. The design life of the precast concrete wall panels and all panel components shall be 75 years.

B Materials

B.1 General

Furnish materials conforming to the following:

Masonry Anchors.....	standard spec 502
Coated High Strength Bar Steel Reinforcement	standard spec 505
Pretensioning Reinforcement.....	standard spec 503
Welded Steel Wire Fabric for Concrete Reinforcement	standard spec 505
Structural Steel and Miscellaneous Metals	standard spec 506
Elastomeric Bearing Pads	standard spec 506

Galvanize or furnish stainless steel materials for all hardware incorporated into the finished structures. (Not including reinforcement bars or prètensioning reinforcement.)

B.2 Concrete

Furnish concrete as specified in standard spec 501.

Ensure concrete attains a minimum 28-day compressive strength of 5000 pounds per square inch. Base all tests on 6 inch by 12-inch cylinders, or 4 inch by 8-inch cylinders, provided the engineer develops and approves a correlation factor. Mold concrete cylinders in suitable steel or plastic molds. Cure concrete cylinders according to AASHTO T 23, except cure the cylinders with the member until release strength is obtained, then cure the cylinders according to AASHTO T 23.

Make and test the cylinders and make available to the engineer all information relating to the making and testing of cylinders. Notify the engineer immediately if concrete cylinder compressive strengths are less than the required 28-day strength. Keep neatly documented records of all cylinder testing on the day of the test and make them available to the engineer. Provide copies of the tests to the engineer by contract completion.

Furnish precast prestressed concrete panels cast from air entrained concrete. Use type I, IS, I(SM), IP, II, or III cement. The contractor may replace up to 30 percent of type I, II, or III portland cement with an equal weight of fly ash conforming to standard spec 501.2.6 or slag conforming to standard spec 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air entraining admixture conforming to standard spec 501.2.2 for air entrained concrete. Use only size No. 1 coarse aggregate conforming to standard spec 501.2.5.4.

Determine proportions for the mix within the following limitations:

Water cement ratio	not greater than 0.45
Cement content, pounds per cubic yard of concrete	610 minimum
Air content of concrete, percent maximum	3.5-6.0
Slump of mixed concrete, maximum	4 inches

If the mix does not contain a high range water reducer admixture, use a department-approved set retarding admixture as specified in 501.2.3.2 at the recommended rate if the ambient air temperature is 70 degrees F (21 degrees C) or higher. The contractor may use it at their option if the ambient air temperature is less than 70 degrees F (21 degrees C).

Do not add more admixtures or water after mixing is complete.

Use admixtures that do not have significant chlorides or chlorides added during manufacture.

Use admixtures that are compatible with all ingredients of the concrete mixture.

B.3 Pretensioning Reinforcement

Use high tensile strength, 7-wire strands conforming to ASTM A 416, grade 270.

B.4 Plant Certification

Obtain all precast prestressed concrete wall panels from fabrication plants that comply with the department's plant certification program for precast prestressed concrete, unless the engineer agrees to accept these items according to the alternate procedures set forth in the department's plant certification program.

B.5 Lifting Devices

The type, number and locations of lifting devices and the method of handling the architectural precast panels is determined by the fabricator and approved by the engineer. Do not locate lifting devices in the surface of the panel facing toward the road.

B.6 Accessories and Inserts

Materials:

Shims: High-density plastic or galvanized steel, 1/8-inch thick, smooth both sides
Carbon steel plate: ASTM A 283
Welded headed studs: AWS D1.1 – Type B
Bolts, nuts, rods, washers: subsection 506.2
Joint Material: Closed cell 100% virgin chloroprene (neoprene) filler meeting Division II Section 18 of the AASHTO Specifications for Highway Bridges.
Inserts: Galvanized with minimum 12 Gage steel conforming to ASTM A1011 SS GR 33 or ASTM A653 GR 33 A. Inserts anchors to have 1 1/2-inch minimum cover.

Zinc coated fabrications: Conform to ASTM 385 for fabricating zinc coated work.

C Construction

C.1 Design Requirements

Design panels and components to withstand initial handling, transportation, and erection stress limits; dead loads; wind load of 40 pounds per square foot; suction load of 20 pounds per square foot; structural backfill in cavity to 42 inches above finished grade and in front of abutments as shown in the plans; thermal stresses; and other loads specified. In addition to the above loads also design inserts and connection assemblies for the loads indicated on the plans and a horizontal force equal to at least 20% of the dead weight of the panel.

Provide a minimum prestress of 250 psi after losses and minimum temperature and shrinkage reinforcement as required by AASHTO Standard Specifications for Highways Article 8.20.

C.2 Submittals

Erection drawings shall conform to the contract plans and consist of member piece marks and completely dimensioned size and shape of each member; plans and/or elevations locating and defining all products furnished by manufacturer; sections and details showing connections, cast-in items and their relation to the structure; relationship to adjacent material including footings and copings; joints between members and structure;

description of all loose, cast-in and field hardware; field installed anchor location drawings; erection sequences, when required to satisfy stability, and handling requirements; and all dead, live and other applicable loads used in the design.

Production drawings shall conform to the contract plans and consist of elevation view of each member; sections and details to indicate quantities and position of reinforcing steel, anchors, inserts, etc.; handling devices; dimensions and finishes; prestress for strand; concrete strengths; estimated cambers; and methods for storage and transportation.

Submit on request design calculations performed by a registered engineer licensed in the State of Wisconsin experienced in the design of precast prestressed architectural concrete.

Design modifications necessary to meet performance criteria and field coordination. Variations in details or materials shall not adversely affect the appearance, durability, or strength of units. Maintain general design concept without altering profiles and alignment.

Submit on request reports on materials, compressive strength tests on concrete and water absorption tests on units.

Submit to the engineer, for acceptance and placing on file before commencing, one set of the submittals that the contractor has checked. In addition, provide two sets to the Region office, Danielle Block, (920) 492-2212, and one set to the Bureau of Structures for acceptance and inspection purposes. Only after acceptance by the Region may fabrication commence of panels begin. The engineer may refuse prints of submittals that are not clear and legible. If the engineer requests, submit one additional copy of submittals for review. After acceptance, furnish as many copies of submittals as required.

The submittals become a part of the contract, provided any differences between sections on production drawings and sections the plans show are made only if the engineer approves and if the substitution is made at no additional expense to the department.

After initial submittal and acceptance, make no deviation from the production drawings or changes to them without the engineer's further review and acceptance.

The engineer's review of submittals means only a review of the character and sufficiency of the details and does not relieve the contractor from responsibility in regard to errors or omissions on those drawings.

C.3 Sample Panel

Produce one standard sample panel for acceptance of color and texture. Before any final panels are produced the 4 x 4 foot sample panel shall be reviewed and accepted by the US 41 team, Danielle Block, (920) 492-2212. If the panel is not acceptable, a second panel shall be produced and submitted for acceptance. Sample panel to be the standard of quality for precast panel work after acceptance. Test panels shall be delivered to the

USH 41 field office (1940 Mason Street, Green Bay, WI 54303) for checking purposes during production of project panels.

C.4 Stressing Procedure

Stressing procedure shall be in accordance to standard spec 503.3.1. Ensure all the strands of a pretensioned member are free from kinks or twists before starting tensioning operations. Ensure no strand unwinds more than one turn after starting tensioning operations.

Perform transfer of prestress to concrete after the concrete develops the minimum required strength for transfer determined by the test cylinders.

C.5 Placing and Fastening Steel

Placing and fastening steel shall be in accordance to standard spec 503.3.1.1 of the standard specifications. Place all steel units in the position the plans show and hold firmly during concrete placing and setting as specified in standard spec 505.3.

Ensure that all prestressing steel is free of dirt, grease, wax, scale, rust, oil, or other foreign material that may prevent bonding between the steel and the concrete.

C.6 Placing Concrete

Handle and place the concrete as specified in standard spec 502.

C.7 Tolerances

Cast architectural precast concrete panels to plan dimensions within the following applicable tolerances:

Overall height of panel measured at the face exposed to view	$\pm 3/16$ -inch per 10 ft.
Overall width of panel measured at the face exposed to view	$\pm 3/16$ -inch per 10 ft.
Total thickness	$\pm 1/4$ -inch
Structural thickness	$\pm 1/4$ -inch
Variation from square or designated skew	$\pm 1/2$ -inch
Local smoothness, unconcealed surfaces	$\pm 1/4$ -inch per 10 ft.
Bowing	$\pm \text{Length}/360$, to a maximum of 1-inch
Warp (from adjacent corner)	$\pm 1/16$ -inch per ft.
Location of inserts	$\pm 1/2$ -inch
Tipping and flushness of inserts	$\pm 1/4$ -inch
Position of handling devices	± 3 -inch
Reinforcing steel:	
Where position has structural implications or affects concrete cover	$\pm 1/4$ -inch
Otherwise	$\pm 1/2$ -inch
Location of strand:	
Perpendicular to panel	$\pm 1/4$ -inch
Parallel to panel	± 1 -inch
Dimensions of architectural features and rustications	$\pm 1/4$ -inch

C.8 Curing

Cure concrete in accordance to standard spec 503.3.2.2.

C.9 Surface Finish

Provide architectural surface treatment, brick pattern, as detailed in the plans. Provide a rubbed surface finish on the remaining exposed surfaces of prestressed concrete panels as specified in standard spec 502.3.7.3 before shipping from the plant. Exposed face to match approved mockup panel. Use rigid molds to maintain panels within specified tolerances conforming to shape, lines, and dimensions shown on the production drawings. Construct molds to withstand vibration method selected.

Coat bottom of panels with bitumastic after cutting strands flush. Do not coat top of panels.

C.10 Erection

Erect panels without damage to shape or finish. Replace or repair damaged panels. Do not drill or form holes through the precast prestressed wall facing panels to erect panels. An alternate method of anchoring/attaching the precast prestressed concrete wall panels may be submitted to the engineer for review and possible acceptance.

Place precast concrete wall panels so that their final position is vertical. Ensure that the vertical joint openings between panels are uniform and that decorative patterns between panels are aligned.

When panels require adjustment beyond design or tolerance criteria, discontinue affected work; advise engineer.

Verify structure, footings, anchors blocks, rods, couplers, clevises, and other anchor devices are ready to receive panels. Verify that wall panel footings are placed at the proper horizontal and vertical alignments and are ready to receive wall panels. Place elastomeric pad and shims behind panels to ensure proper horizontal alignment. Set panels on elastomeric bearing pads and shims and install base angles at ends of panels. Place a 2 foot wide layer of Geotextile Fabric Type DF over the joint between the tilt up panel and the panel footing as shown on the plans. Shim vertical joints to get proper opening. Install and compress neoprene joint filler in the lap joints between panels. Fasten top of panels to deadman anchor block assemblies at MSE walls, as shown on the plans.

Touch-up scratched or damaged galvanized surfaces.

C.11 Erection Tolerances

Plan location from wall reference line	± ½-inch
Plan location from wall alignment.....	± ½-inch
Top elevation from nominal top elevation.....	± 1.4-inch

Support elevation from nominal elevation:

Maximum low	1/2-inch
Maximum high	1/4-inch
Plumb in any 10 ft. of panel height	± 1/4-inch
Maximum offset of matching edges and decorative patterns	± 1/4-inch
Maximum offset of matching faces	± 1/4-inch
Joint width (governs over joint taper)	± 1/4-inch
Joint taper maximum	± 3/8-inch
Joint taper over 10 ft. length	± 1/4-inch
Differential bowing or camber as erected between adjacent members of the same design	± 1/4-inch

C.12 Adjusting

Adjust panels so joint dimensions are within tolerances.

D Measurement

The department will not measure Prestressed Precast Concrete Wall Panel. The department will pay plan quantity in accordance to the Pay Plan Quantity article. Any modifications to the contract quantity caused by corrections or revisions of the original contract plan, which have been approved by the engineer, will be measured by the square foot on a vertical plane between a line at the finished grade in front of the panel and a line indicating the top of wall including wall cap or coping as shown on the plans. Unless ordered by the engineer, panel area below or above these lines will not be measured for payment.

E Payment

The department will pay for plan quantities in accordance to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.850	Prestressed Precast Concrete Wall Panel	SF

Payment is full compensation for preparing the design drawings and calculations, production drawings, and coordination; for providing concrete and reinforcement steel for the cast-in-place concrete footings and copings, prestressed precast wall panels, including all concrete, grout, mortar, reinforcement steel, tie bars, bearing pads, geotextile fabric Type DF, excavation, shims, masonry anchors, filler, anchor plates, angles, slotted inserts and other embedded metal; for casting and curing concrete; for jacking and prestressing; and for furnishing all handling, hauling and erecting. Deadmen, anchor blocks, rods, couplers and clevises shall be produced and supplied to the job site under this item. (Installing deadmen within the reinforced earth mass will be covered under the MSE Wall bid item) Parapets, railings, abutment bodies and other items above the wall panel cap or coping will be paid for separately. Architectural Surface Treatment will be paid for separately.

13.12. Combination Barrier N-05-0012, Item SPV.0165.900; Combination Barrier N-05-0013, Item SPV.0165.901.

A Description

This special provision describes designing, fabricating, transporting, and erecting a retaining wall system with an integral noise barrier system using a single-sided sound absorptive noise barriers in accordance to the plans, applicable portions of the standard specifications, the department-approved installation specifications, and as hereinafter provided.

The precast concrete retaining wall system shall be designed to retain a highway cut section (where the adjacent ground is higher than the highway ground). The precast concrete noise barrier shall be designed to minimize the generation and propagation of roadway traffic noise.

The retaining wall systems with integral noise barrier system shall be a post and panel configuration.

B Materials

All materials used in the work shall conform to the pertinent requirements of the standard specifications and as hereinafter specified.

Provide grade A, A-2, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501 for concrete posts and the core component of composite concrete sound absorbing panels.

B.1 System Pre-Qualification

The noise wall system supplied, as part of the combination barrier, must be pre-qualified by the department. The department maintains a list of pre-qualified systems which can be viewed at:

<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm> .

Systems eligible for use on this project shall be pre-qualified prior to the award of this contract.

B.2 Design

The department specifies pre-qualified single-sided sound absorptive noise barrier products on the department's approved product lists available at:

<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>

Provide the name of the selected system to the engineer within 25 days after award of the contract. Schedule a pre-design meeting with the engineer subsequent to award of the contract and prior to beginning design of the noise barrier. The suppliers of the noise barrier components shall attend this meeting.

B.2.1 Structural and Foundation Design

The structural and foundation design of the retaining wall system with integral noise barrier system shall be in accordance to the current edition of “AASHTOLFRD Specifications” and “Guide Specifications for Structural Design of Sound Barriers published by the American Association of State Highway and Transportation Officials (AASHTO), 444 North Capitol Street, NW, Suite 225, Washington, DC 20001.

Design the noise barrier to withstand wind pressure, applied perpendicular to the barrier, in each direction, of 32 pounds per square foot for ground mounted barriers, and 42 pounds per square foot for structure mounted barriers.

The top 3-feet of supporting soil shall be ignored in the design of ground-mounted barrier foundations.

Design the retaining wall for the anticipated ground elevations, as shown on the plans.

The design shall be submitted to the department for approval, according to section B.2.10 of this special provision.

B.2.2 Retaining Wall Panels

The minimum compressive strength of the precast concrete shall not be less than 4.00 ksi at 28 days after casting.

The panel design shall incorporate horizontal tongue and groove features for alignment and meshing of stacked panels.

Horizontal joints must be provided with a compressible bearing material to prevent concrete to concrete contact.

An 18-inch wide geotextile shall be used on the backface of the wall panels to cover the panel joints and the joints with the posts. The geotextile shall meet the physical requirements as stated in standard spec 645.2.4 for Geotextile Fabric, Type DF, Schedule B, except that the grab tensile strength shall be 180 lb or above in both the machine and cross-machine directions. The geotextile shall be attached with a standard construction adhesive suitable for use on concrete surfaces and cold temperatures. A geosynthetic waterproof membrane is not required to cover the reinforced mass.

The noise and retaining wall panels may be cast as a single panel when there is less than 3 feet of soil, provided that the portion of the panel retaining soil meets all retaining panel requirements.

Panels shall be sound absorptive on the exposed face, with a broomed concrete finish on the backfilled side of the unit. Provide texture with a brick pattern as specified in the Surface Texture section below.

Backfill all excavated areas behind the retaining wall panels with granular backfill per section 209 of the standard specifications.

B.2.3 Barrier Profile

Unless otherwise shown on the plan or approved by the engineer, design the top of the noise barrier to be horizontal and at or above the acoustic elevation line shown on the plans. The bottom elevation of the noise barrier shall be as shown on the plans. Changes in elevation shall be accomplished by stepping sections at posts. Steps shall not be smaller than 1 foot in height, nor exceed 3-feet in height. All joints shall be horizontal or vertical and shall be aligned with the adjacent panels.

B.2.4 Panel Orientation

Design the panels to prevent entrapment and ponding of water. Avoid inadvertently providing areas for perching, nesting of birds or collecting of dirt and debris in the design of the retaining wall system with integral noise barrier system.

B.2.5 Surface Texture

Unless otherwise shown and provided for in the plans, wall pattern shall have a used brick running bond pattern with individual brick dimensions of 2 3/8 inches to 2 5/8 inches by 7 3/8 inches to 7 5/8 inches. Minimum relief of the brick form liner shall be 1/2 inch.

Highway side and residential side pattern shall be the same.

Noise barrier posts shall be manufactured of the same materials throughout the project.

Supply and deliver to the USH 41 field office, 1940 Mason Street, Green Bay, WI 54303, a 3 foot by 4 foot concrete test panel for each panel type with the specified pattern. Obtain the engineer's acceptance of the panel's pattern prior to production of the panels required for the contract. The accepted pattern test panels shall remain on the project site in a readily accessible location for the duration of the project. The accepted sample panels will be the standard for all noise barriers on the project.

B.2.6 Sound Transmission Loss (TL)

Design the noise barrier panel material to achieve a transmission loss equal to or greater than 20 decibels in all test frequency bands.

B.2.7 Noise Reduction Coefficient (NRC)

Design the noise barrier so that at least 70 percent of the highway side of the noise barrier panels that are 2-feet above the ground shall have a minimum NRC of 0.80. The remaining noise barrier panels on the highway side that are 2-feet or more above the ground shall have a minimum NRC of 0.70.

B.2.8 Structural Steel

Galvanize all structural steel after fabrication by the hot dip process in accordance to ASTM A123. Galvanize steel hardware and threaded fasteners, bolts, nuts, and washers in accordance to ASTM A153.

Shop coat all steel galvanized surfaces exposed to view with an approved paint system as hereinafter specified. Clean galvanizing surfaces to be painted per SSPC-SP1 to remove, chlorides, sulfates zinc salts, oil, dirt, organic matter and other contaminants. The cleaned surface should then be Brush Blast Cleaned per SSPC-SP7 to create a slight angular surface profile (1.0 – 1.5 mils suggested) for adhesion. Blasting should not fracture the galvanized finish or remove any dry film thickness.

After cleaning, provide a tie coat from an approved coating system that is specifically intended to be used on a galvanized surface. The tie coat shall etch the galvanized surface and prepare the surface for the top coat. Apply a top coat matching the finished color specified in B.2.5. Use a pre-approved top coat that is resistant to the effects of the sun, and is suitable for use in a marine environment. Exercise care so as not to damage the painted surfaces during shipment and erection of the noise barriers.

Use one of the qualified paint sources and products given below. An equivalent system may be used with the written approval of the engineer. Supply the engineer with the product data sheets before applying any coating. The product data sheets shall indicate the mixing and thinning directions, the recommended spray nozzles and pressures, the minimum drying time for shop applied coats, and the recommended procedures for coating galvanized bolts, nuts, and washers.

Producer	Coat	Products	Dry Film Minimum Thickness (mils)	Minimum Time Between Coats (hours)
Sherwin Williams 1051 Perimeter Drive, Suite 710 Schaumburg, IL 60173 (847) 330-1562	Tie	Recoatable Epoxy Primer B67-5 Series/B67V5	2.0 to 4.0	6
	Top	Acrolon 218 HS Polyurethane, B65-650	2.0 to 4.0	NA
Carbolin 350 Hanley Industrial St Louis, MO 63144 (314) 644-1000	Tie	Rustbond Penetrating Sealer FC	1	36
	Top	Carboline 133 LH	4	NA
Wasser Corporation 4118 B Place NW Suite B Auburn, WA 98001	Tie	MC-Ferrox B 100	3.0 to 5.0	8
	Top	MC-Luster 100	2.0 to 4.0	NA

B.2.9 Design Coordination

B.2.9.1 Underground Utility and Drainage Crossings

Design the retaining wall systems with integral noise barrier post spacing so as not to interfere with the existing utility and drainage facilities.

Design the retaining wall systems with integral noise barrier post spacing so as not to interfere with proposed utility and drainage facilities shown in the plans. This includes proposed roadway lighting and ITS facilities.

B.2.10 Project Submittal Requirements

Submit three copies of the following documents to the engineer for review:

1. All structural and foundation design calculations.
2. Detailed design/shop drawings.
3. Certifications for all materials, including trade name of the products along with the name and address of the manufacturers.
4. Specifications regarding installation requirements and sequence of construction, including a detailed bill of materials.
5. Detailed colored plan of the aesthetic treatment for the entire noise barrier.

Submit the following documents to the Bureau of Structures Design Section:

1. Three sets of design/shop drawings and one set of design calculations for review and acceptance. Any necessary revisions and/or corrections required for acceptance will be noted and returned to the contractor.

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show the proposed retaining wall design is in compliance with the design specifications.

Design calculations shall be on 8½ x 11-inch sheets, neatly bound with a title sheet listing the complete project identification number and combination barrier designation. Design/shop drawings shall conform to the contract plans and the requirements of these special provisions. The design/shop drawings shall consist of plan and profile sheets, details, explanatory notes, erection diagrams, aesthetic treatments, and other working plans. All dimensions, sizes of material, material information and other information necessary for the complete fabrication and construction of the combination barrier should be designated on the appropriate sheets. The design/shop drawings shall be drawn to an appropriate scale on reproducible sheets 11 x 17-inches including borders. Each sheet shall carry the complete project identification number and combination barrier designation. Design/shop drawings and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

B.2.11 Review Process

All documents, including drawings, calculations and related material submitted for review will be given final acceptance by the engineer.

It is expressly understood that the engineer's review and acceptance of the drawings, calculations, and related material, submitted by the contractor, means only an acceptance of the character and sufficiency of the details, and does not relieve the contractor from responsibility in regard to errors or omissions on said submittals.

The final accepted design documents and/or shop drawings shall become a part of the contract. Any substitution of materials or dimensions contemplated by the contractor's submitted documents, different from materials or dimensions shown on the contract plans, shall be made only when approved by the engineer, and in such case, additional costs resulting from such substitution shall be borne by the contractor.

Ordering of materials by the contractor prior to acceptance of the submittal requirements shall be at the contractor's own risk.

B.3 Wall System Testing Requirements

All test reports required in section B.3 shall reference the specific facility which will be producing material for this contract. Test reports shall be representative of differing production lots on materials manufactured for this specific contract which is representative of the manufacturer's continuous production for wall systems. Panels tested or from which samples will be taken from shall be selected and appropriately marked by the engineer either at the manufacturer's plant or from panels delivered to the project at the engineer's option. Test reports will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. Testing shall be conducted on panels within the first 30,000 SF of production of each lot not exceeding 100,000 SF. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage. The first set of tests conducted for projects that do not exceed 100,000 SF shall be within the first third of the total square footage of the project.

Products tested should be tested as a system under the requirements in B.3.1 and B.3.2; this includes stain intended for the supplied concrete and composite concrete components wall panels.

B.3.1 Noise Reduction Coefficient (NRC)

The noise barrier panel shall be tested in accordance to ASTM C423, and placed in accordance to ASTM E795, mounting type A, to determine the noise reduction coefficient (NRC) of the material. Submit to the engineer an independent testing laboratory test report that shows that the noise barrier panels achieve an NRC as specified for the highway side of the barrier.

B.3.2 Salt Scaling Resistance

All sound absorbing composite concrete and composite concrete components shall be tested for salt scaling resistance in accordance to ASTM C672 and the following modifications and/or requirements:

B.3.2.1 Test Specimens

For the purposes of the test, three specimens of a full cross section of the composite panel at least 12 inches x 12-inches shall be selected at random from the provided composite panel as defined in B.3. Sample specimens shall be from production panels as selected and marked by the engineer, representative of the manufacturer's continuous production operation.

The surfaces of the sample specimen(s) shall be prepared for testing as follows. Brush the surfaces of the sample to remove any loose particles. The test specimens shall then be submerged in water for a period of 24 hours prior to testing. Immediately following this, the specimens shall be covered with the sodium chloride solution as stated below.

B.3.2.2 Test Procedure

Place samples in a 5 sided water tight container in which a solution of sodium chloride (concentration 3% by mass) fully submerges the specimen. A ¼- inch of sodium chloride solution shall be maintained above the top surface of the fully submerged specimen within the container.

The specimens shall then be subjected to continuous freeze-thaw cycles as follows:

After each five cycles, the salt solution and particles of deteriorated concrete shall be removed from the slab and collected in a watertight container. The operation is best accomplished by tilting the slab in a funnel approximately 20-inches in diameter and washing the surface of the slab with a 3% sodium chloride solution. This washing should continue until all loose particles are removed from the concrete. The solution shall then be strained through a filter and the residue dried out at 221 degrees Fahrenheit to a constant mass condition. The residue shall be cumulatively weighed after each five cycles. This residue shall be defined as the loss of mass and expressed in pounds per square foot of exposed slab area. This is to exclude the concrete core for composite concrete panels in the calculation of the area used to express the mass loss per square foot. The loss of mass shall be calculated to the nearest 0.01 pounds per square foot. The surfaces should be rated in accordance to 10.1.5 of ASTM C672 including any delamination of the sound absorbing material from the concrete core for composite concrete materials. After the washing of each slab, a new solution of sodium chloride (concentration 3% by mass) shall be placed in the 5 sided water tight container to fully submerge the specimen to a depth of ¼-inch above the top surface of the fully submerged test specimen.

The test shall continue until 50 freeze-thaw cycles have been completed.

During the test each specimen shall be positioned and supported to allow free circulation of the test solution under, around, and over test pieces. The bottom of the specimens shall be supported on blocks in a manner to assure movement of moisture through and around the test specimen(s).

B.3.2.3 Test Report

Submit to the engineer an independent testing laboratory test report which shows that all solid and composite concrete products meet or exceed the following criteria:

- a. After 50 freeze-thaw cycles the test specimens shall not exhibit excessive deterioration in the form of cracks, spalls, aggregate disintegration, delamination or other objectionable features.
- b. Compliance with the test requirements is based upon a loss of mass of not more than 0.2 pounds per square foot from the surface after 50 cycles of freezing and thawing. The measured surfaces are not to include the exposed surface of any core material of a composite concrete component.
- c. The report shall include the following:
 1. Name of manufacturer.
 2. Location of production.
 3. Production description.
 4. Date product sample was cast.
 5. Commencement date of testing.
 6. Specimen identification.
 7. 5x7-inch color photographs of the test specimens before and after the 50 cycles of freeze-thaw test.
 8. A graph of the cumulative mass loss of each specimen plotted against the number of freeze-thaw cycles for 5, 10, 15, 20, 25, 30, 40, and 50 freeze-thaw cycles.
 9. Visual rating in accordance to 10.1.5 ASTM C672 including report of any delamination of the sound absorbing material from the concrete core for composite concrete components.

B.4 Wall Systems Material Requirement

Provide certification of compliance to all applicable requirements in B.4. All material certifications shall reference the specific facility manufacturing the material and this contract. Certifications will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage.

B.4.1 Sound Transmission Loss (TL)

Submit to the engineer certification of compliance that the sound transmission loss of the panel material, when tested in accordance to ASTM Standard E90, achieves a transmission loss as specified in B.2.6.

B.4.2 Structural Steel

Submit to the engineer certification of compliance that structural steel galvanized after fabrication is in accordance to ASTM A123. Steel posts of post and panel walls shall be galvanized. Any galvanized surfaces exposed to view shall be coated with an approved paint system as referenced in B.2.8.

B.4.3 Accelerated Weathering

Submit to the engineer certification of compliance that all coatings on barrier components, with the exception of structural steel and wood components comply with the following requirements when tested by ASTM Standard G155, G153, or G152 after 2400 hours of exposure on a cement based test specimen(s).

1. No checking when rated in accordance to ASTM D660.
2. No cracking when rated in accordance to ASTM D661.
3. No blistering when rated in accordance to ASTM D714.
4. No difference in adhesion between the unexposed control sample and an exposed sample when tested in accordance to ASTM D3359, Method A.
5. No chalking less than #7 rating when rated in accordance to ASTM D4214.
6. No color change greater than 5 NBS units when measured in accordance to ASTM D2244, using illuminant D65 and the 1964 10-degree standard observer.

B.4.4 Corrosion Resistance (Salt Fog Exposure)

Submit to the engineer certification of compliance that all coated steel components, with the exception of structural steel, has a coating system that has been tested for corrosion resistance in accordance to ASTM B117 and comply with the following requirements:

1. No checking when rated in accordance to ASTM D660.
2. No blistering when rated in accordance to ASTM D714.
3. No loss of adhesion when tested in accordance to ASTM D3359 with no evidence of corrosion along the edges of the samples or along the score lines, or both, or other defects.

B.4.5 Hardware and Fasteners

All hardware and fastening devices shall be either hot dipped galvanized steel or made of nonferrous or stainless steel. Fastening devices shall be screws; no nails or staples shall be allowed.

B.4.6 Mineral Fiber Material

Mineral fiber material used to increase sound absorption shall be manufactured in accordance to Federal Specification HH-1-558B and ASTM C612. Mineral fiber material shall have a minimum density of 6 pounds per cubic foot, shall absorb less than 1 percent of water when tested in accordance to ASTM C553, be non-corrosive, and nonhygroscopic. The mineral fiber material shall be fastened to the noise barrier system in a manner to prevent sagging when in a saturated condition.

C Construction

C.1 General

Construct the retaining wall system with integral noise barriers at the locations shown on the plans, in accordance to the contract specifications and design drawings and/or as directed by the engineer. All sound absorbing composite concrete components shall be delivered to the project site(s) as a finished component. A sound absorbing composite

concrete system, which has the sound absorbing material glue-laminated or alternately affixed by a secondary adhesion method on the project site, will not be allowed.

Provide a minimum ten day notice to the engineer of the date that the fabrication of the noise barrier material will commence. Certifications and test reports will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. For projects that do not exceed 100,000 SF a minimum of 2 lots of material will represent the project, each lot representing equivalent square footage.

Panels from which samples will be taken from for testing required in B.3 shall be selected and appropriately marked by the engineer either at the manufactures' plant or from panels delivered to the project at the engineer's option. Test reports will be required for each lot of material not to exceed 100,000 SF of noise barrier produced. Testing shall be conducted on panels within the first 30,000 SF of production of each lot not exceeding 100,000 SF. For projects that do not exceed 100,000 SF, a minimum of two lots of material will represent the project, each lot representing equivalent square footage. The first set of tests conducted for projects that do not exceed 100,000 SF shall be within the first third of the total square footage of the project.

Inspect all materials delivered to the construction site for proper dimensions, honeycombing, cracks, voids, surface defects, consistency in color and texture, and any other damage or imperfections, prior to installation.

If any part of the noise barrier material fails to comply with any requirements of the contract specification, the component shall either be corrected, permanently marked as unacceptable and be disposed of by the contractor or accepted at a reduced price. The decision will be made by the engineer and is dependent on the severity of the specification deviation.

C.5 Tolerances The posts and panels comprising the combination barrier shall be installed plumb within ½-inch of vertical in 15-feet. The posts shall be located to the line and grades as shown in the plans to within +/- ¾-inch. Horizontal joints of adjacent panels shall be lined up to a vertical tolerance of ¼-inch. Where vertical adjustments are required for alignment, a mortar base or steel shims shall be used. Galvanize and prime coat steel shims in accordance to B.2.8.

D Measurement

The department will not measure Combination Barrier (Structure). The department will use pay plan quantity according to the Pay Plan Quantity article. Any modifications to the contract quantity caused by corrections or revisions of the original contract plan, which have been approved by the engineer, will be measured by the square foot. This area in square feet will be determined by measuring the length in linear feet along the faces of the noise barrier, and height in linear feet from bottom to top of the noise barrier, then multiplying the measured length by the measured height, and the contract quantity will be adjusted accordingly to determine the final pay quantity.

E Payment

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.900	Combination Barrier N-05-0012	SF
SPV.0165.901	Combination Barrier N-05-0013	SF

Payment is full compensation for preparing the design drawings and calculations; supplying and delivering samples and test barrier panels as required in B.2.5 and B.3; furnishing all labor, equipment, and materials required for the manufacture, testing, supply, and delivery of the combination barrier material including aesthetic patterns on panel; furnishing all labor, tools, equipment, and materials required to construct the combination barriers, including site preparation, all necessary excavation, disposing of materials, constructing foundations, erecting posts and panels, connecting the panels to the side of retaining walls, providing backfill, and backfilling.

14. Drainage and Erosion Control.

14.1. Erosion Control.

Supplement standard spec 107.20 as follows:

Perform construction operations in a timely and diligent manner, continuing all construction operations methodically from the initial topsoil stripping operation through the subsequent grading and finishing to minimize the period of exposure to erosion.

Immediately re-topsoil graded areas, as designated by the engineer, after grading is completed within those areas. Seed, fertilize, and mulch or erosion mat all topsoiled areas within five working days after placement of topsoil.

Restore as much disturbed area as possible or as directed by the engineer with topsoil, seeding, fertilizer, and mulching or erosion mat at the end of each construction season to minimize erosion due to spring melt. As directed by the engineer, stabilize areas that cannot be restored with permanent measures at the end of each construction season with the soil stabilizer item provided in the plan.

Prepare an Erosion Control Implementation Plan (ECIP) amendment detailing an over-winter erosion control plan for 2013/2014, 2014/2015 and 2015/2016. Present this ECIP amendment at a pre-winter shut down meeting with DNR and department staff prior to October 15.

15. Backfill Coarse Aggregate Size No. 1, Item 209.0300.S.

A Description

This special provision describes furnishing and placing coarse aggregate backfill as shown on the plans and as hereinafter provided.

B Materials

Provide clean concrete aggregate graded in accordance with the requirements as specified under standard spec 501.2.5.4.4. The soundness and wear requirements are deleted from this material.

C Construction

Construct the coarse aggregates in accordance with standard spec 209.3.

D Measurement

The department will measure Backfill Coarse Aggregate Size No Enter the size number in volume by the cubic yard in the vehicle.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
209.0300.S	Backfill Coarse Aggregate Size No. 1	CY

Payment is full compensation for furnishing and installing the aggregate.
209-030 (20030820)

15.1. Manhole and Inlet Covers.

Perform this work in accordance to standard spec 611, these special provisions, and as hereinafter provided.

For manhole or inlet covers that will have traffic running over them during construction, temporarily weld lid or grate at three locations along the frame. Each temporary weld shall be 3 to 4 inches in length. When directed by the engineer, remove temporary welds when no longer needed. This work shall be considered incidental to the Manhole or Inlet Covers bid items.

15.2. Manhole, Inlet, and Catch Basin Adjusting Rings.

Complete adjustment of manhole, catch basin, and inlet structures in accordance to section 611 of the standard specifications and herein provided:

Adjustments of 4-inches or more in height shall be constructed using concrete grade rings. Grade rings less than 2-inches in thickness are not allowed.

Supply rubber adjustment riser rings for inlets located within the roundabout central island in accordance to the department's Approved Product List.

Replace standard spec 611.3.3(1) with the following:

Set inlet cover on rubber adjustment riser ring. Use approved mastic adhesive between the ring and the inlet structure. Use an approved polyurethane adhesive with a flexible set between the ring and the inlet cover. Use two 5/16-inch beads of adhesive placed 1 inch and 2 inches in from the outside edge of the ring. If multiple adjustment rings are necessary, a maximum of two adjustment rings can be used. A maximum of 3 inch adjustment is allowed. Use polyurethane adhesive with a flexible set to join the two rings. If the adjustment rings must be cut, the joints must be staggered and a polyurethane adhesive used to reattach the cut ends. No concrete adjustment rings or mortar is to be placed between the top of the structure and the inlet cover.

15.3. Cover Plates Temporary, Item 611.8120.S.

A Description

This special provision describes furnishing, installing and removing a steel plate to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

B Materials

Provide a 0.25-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

C (Vacant)

D Measurement

The department will measure Cover Plates Temporary, acceptably completed in place, as units.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

Payment is full compensation for furnishing, installing, and removing the cover plates.

The steel plates shall become the property of the contractor when no longer needed in the contract work.

611-006 (20030820)

15.4. Pipe Grates, Item 611.9800.S.

A Description

This special provision describes furnishing and installing pipe grates on the ends of pipes as shown in the plans, and as hereinafter provided.

B Materials

Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish pipe grates galvanized according to ASTM A123.

Furnish angles and brackets galvanized according to ASTM A123.

Furnish required hardware galvanized according to ASTM A153.

C Construction

Repair pipes, rods, angles and brackets on which the galvanized coating has been damaged in accordance to the requirements of AASHTO M36M.

D Measurement

The department will measure Pipe Grates in units of work, where one unit is one grate, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.

611-010 (20030820)

15.5. Insulation Board Polystyrene, 2-Inch, Item 612.0902.S.01.**A Description**

This special provision describes furnishing and placing polystyrene insulation board as shown on the plans and as hereinafter provided.

B Materials

Provide polystyrene insulation board that conforms to the requirements for Extruded Insulation Board, AASHTO Designation M230, except as hereinafter revised.

Delete flammability requirement.

B.1 Certification

Before installation, obtain from the manufacturer a certification indicating compliance and furnish it to the engineer.

C Construction

Install one 4-inch x 8-inch polystyrene insulation board between the proposed storm sewer and existing watermain at locations where these facilities cross each other.

D Measurement

The department will measure Insulation Board Polystyrene (size) by area in square yards of work, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
612.0902.S.01	Insulation Board Polystyrene 2-Inch	SY

Payment is full compensation for furnishing all excavation; and for furnishing and placing the insulation board.

15.6. Fine-Grained Soil, Item SPV.0035.150.**A Description**

This section describes furnishing and installing Fine-Grained Soil at the areas shown on the plans.

B Materials

Samples from soil borings taken at the site show existence of acceptable material for re-use as Fine-Grained Soil (See table). Prior to placing fine-grained soil, contractor must submit laboratory test results of the fine-grained soil documenting that it meets or exceeds the fine-grained soil material specifications. Conduct laboratory tests at the frequency listed below and perform them in accordance to ASTM standard methods listed below. Submit test results to engineer for review and approval prior to construction. These three tests are required:

- A minimum of 50 percent by dry weight which passes the 200 sieve.
- Liquid Limit (LL): 22 percent or greater.
- Plasticity Index (PI): 11 percent or greater.

Remove and dispose any soil or other materials, at contractor's expense, not meeting these three requirements.

In addition to these three testing requirements, provide additional test results for any off-site fine-grained soil furnished. Testing requirements are listed below.

Reference standards are listed as follows:

American Society for Testing and Materials (ASTM):

- **ASTM D1140** Test Method for Amount of Materials in Soils Finer than the No. 200 Sieve.
- **ASTM D422** Method for Particle-Size Analysis of Soils.

- **ASTM D4318** Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- **ASTM D2487** Classification of Soils for Engineering Purposes.

Table of Testing for Fine-Grained Soil

Test	Number of Required Tests		Minimum Requirement
	One Borrow Source Only (on-site or off-site)	Multiple Borrow Sources	
Grain Size Analysis	3 (Total)	1 test/2,500 cy or less/site ^(a)	≥ 50% by dry weight Passing 200 Sieve
Hydrometer Analysis	3 (Total)	1 test/2,500 cy or less/site ^(a)	Information Only
Atterberg Limits (ASTM D4318)	3 (Total)	1 test/2,500 cy or less/site ^(a)	LL ≥ 22% PI ≥ 11%
USCS Classification (ASTM D2487)	3 (Total)	1 test/2,500 cy or less/site ^(a)	Information Only

^(a) For each clay borrow site to be used, perform one test and provide the results to engineer for each 2,500 cubic yards or less of clay to be obtained from each of the borrow sources.

C Construction

Lightly compact Fine-Grained Soil using light weight equipment in a manner that avoids damaging the geosynthetic clay liner (GCL).

Contractor is responsible for construction of the Fine-Grained Soil in accordance to the plans and specifications. If the in-place fine-grained soil fails to meet the requirements of this section, the contractor shall be responsible as follows:

- Remove and replace or rework any portion of the fine-grained soil not meeting the project specifications until project specifications are met.
- Contractor will not be compensated for removing, replacing and reworking fine-grained soil not meeting the specification requirements.

D Measurement

The department will measure Fine-Grained Soil by the cubic yard, acceptably completed in its final position.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item.

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.150	Fine-Grained Soil	CY

Payment is full compensation for furnishing, placing, and testing Fine-Grained Soil; and all incidentals to complete the work.

15.7. Drain Slotted Vane Type A 3-FT, Item SPV.0060.100; Type B 6-FT, SPV.0060.101.

A Description

This special provision describes furnishing and installing slotted vane drains as shown on the plans, in accordance to standard spec 501, 505, 607, and 611, and as hereinafter provided.

B Materials

The pipe that the vane drain casting rests in shall be 10-inch diameter SDR-35 poly vinyl chloride, (PVC) sewer pipe.

C Construction

Prior to encasing the pipe in concrete, cover the upper end of the slotted drain as shown on the plans, or as approved by the engineer.

Prior to construction operations adjacent to the slotted area of the slotted vane drain pipe, cover the slots on the top of the drain. Remove any material entering the pipe at the contractor's expense.

Exercise care to avoid damage to the slotted vane drainpipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drainpipe at contractor's expense.

D Measurement

The department will measure Drain Slotted Vane (Type) (Size) by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.100	Drain Slotted Vane Type A 3-FT	Each
SPV.0060.101	Drain Slotted Vane Type B 6-FT	Each

Payment is full compensation for furnishing all materials, including PVC pipe and end cap, slotted vane drain castings, concrete masonry and reinforcement; adjusting bricks; drilling type V inlet cover to accommodate connection bolts to vane drain; hauling and placing the pipe; making connections to existing inlets; cleaning out and restoring site of work.

15.8. Temporary Drainage Inlet 2x2-FT, Item SPV.0060.102; Inlet 2x3-FT, Item SPV.0060.103; Inlet Median 1, Item SPV.0060.104; Manhole 5-FT Diameter, Item SPV.0060.105.

A Description

Furnish, install and remove temporary inlets and manholes in accordance to the pertinent provisions of standard spec 204 and 611, as shown on the plans and as hereinafter provided.

B Materials

Conform to standard spec 611.2.

C Construction

Conform to standard spec 204.3 and 611.3.

D Measurement

The department will measure Temporary Drainage (Type) (Size) as each individual unit, acceptably completed.

E Payment

Department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.102	Temporary Drainage Inlet 2x2-FT	Each
SPV.0060.103	Temporary Drainage Inlet 2x3-FT	Each
SPV.0060.104	Temporary Drainage Inlet Median 1	Each
SPV.0060.105	Temporary Drainage Manhole 5-FT Diameter	Each

Payment is full compensation for providing and installing all materials, including all masonry, conduit and sewer connections, steps and other fittings; for furnishing all excavating, backfilling, disposing of surplus material, removing and for cleaning out and restoring the work site after construction and removal; except that the department will pay for covers, including frames, grates and lids separately.

15.9. Temporary Inlet Cover, Item SPV.0060.106.

A Description

Furnish and install inlets covers in accordance to the pertinent provisions of standard spec 611 and remove inlet covers, as shown on the plans and as hereinafter provided. Removed inlet covers become property of the contractor.

B Materials

Conform to standard spec 611.2.

C Construction

Conform to standard spec 611.3.

D Measurement

The department will measure Temporary Inlet Cover as each individual unit, acceptably completed.

E Payment

Department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.106	Temporary Inlet Cover	Each

Payment is full compensation for providing and installing all materials, including all masonry, conduit and sewer connections, steps and other fittings; for furnishing all excavating, backfilling, disposing of surplus material, removing and for cleaning out and restoring the work site after construction and removal; except that the department will pay for covers, including frames, grates and lids separately.

15.10. Inlet Median 2 Grate Modified at Structure 243B, Item SPV.0060.107; Structure 244A, Item SPV.0060.108.**A Description**

Furnish and install inlets in accordance to the pertinent provisions of standard spec 611, as shown on the plans and as hereinafter provided.

B Materials

Conform to standard spec 611.2.

C Construction

Conform to standard spec 611.3.

D Measurement

The department will measure Inlet Median 2 Grate Modified at (Structure) as each individual unit, acceptably completed.

E Payment

Department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.107	Inlet Median 2 Grate Modified at Structure 243B	Each
SPV.0060.108	Inlet Median 2 Grate Modified at Structure 244A	Each

Payment is full compensation for providing and installing all materials, including all masonry, conduit and sewer connections, steps and other fittings; for furnishing all excavating, backfilling, disposing of surplus material, and for cleaning out and restoring the work site; except that the department will pay for covers, including frames, grates and lids separately.

15.11. Storm Sewer Plug, Item SPV.0060.109.

A Description

Install a Storm Sewer Plug at locations specified in the plans.

B Materials

Provide a precast reinforced concrete plug or an engineer approved alternative, conforming to the inside diameter of the corresponding pipe as shown on the plan.

All materials, if concrete, must conform to standard spec 501 and standard spec 611.

C Construction

Place a watertight plug in the end of the storm sewer pipe in a manner that seals the pipe, but allows for future removal of plug without damaging the storm sewer pipe.

D Measurement

The department will measure Storm Sewer Plug as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.109	Storm Sewer Plug	Each

Payment is full compensation for furnishing and installing all required materials.

15.12. Temporary Stone Ditch Checks, Item SPV.0060.110.

A Description

Furnish and install temporary stone ditch checks; clean and maintain ditch checks as shown on the plans or as directed by the engineer, and as hereinafter provided. This item also includes the removal and disposal of the ditch checks as directed by the engineer.

B Materials

Provide all materials used under this item in accordance to standard spec 312.

C Construction

Place stone ditch checks immediately after shaping of the ditches or slopes are completed. Place stone checks at right angles to the direction of flow and construct in accordance to the details shown in the plans.

Remove sediment from behind the stone ditch checks when it has accumulated to one half of the original height of the dam. Perform cleaning in accordance to standard spec 628.

D Measurement

The department will measure Temporary Stone Ditch Checks by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.110	Temporary Stone Ditch Checks	Each

Payment is full compensation for furnishing, installing, maintaining, and cleaning; disposal of sediment; and for removing temporary ditch check.

Restoration of the area after ditch check removal shall be paid for with restoration items included in the contract.

15.13. Tracking Pad Maintenance, Item SPV.0060.150.**A Description**

This item includes maintenance of existing tracking pads installed by others at the designated Phragmites waste site.

B Materials

Furnish tracking pad aggregate conforming to standard spec 312.2 for select crushed material except the material shall be substantially free of particles passing the No. 10 sieve.

C Construction

Replace or rework material on the surface of the pad to ensure that the amount of material tracked onto public roads is minimized. Maintain the driving surface in a clean and safe operating condition.

D Measurement

The department will measure Tracking Pad Maintenance each time a tracking pad requires rework or replacement of aggregate material. Payment will not be made for removing spillage on the highway and clean up shall be completed in accordance to standard spec 107.8(3).

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.150	Tracking Pad Maintenance	Each

Payment is full compensation for rework or replacement of aggregate material on existing tracking pads and for furnishing all incidentals to complete the work.

15.14. Temporary Slope Drain, Item SPV.0060.151.

A Description

Install, maintain, and remove a temporary slope drain to manage runoff from bridge decks prior to installation of surface drains, storm sewer, and pavement on the bridge approaches or permanent slope stabilization.

B (Vacant)

C Construction

Construct temporary slope drain in accordance to the details shown in the plan and as required to fit the conditions of each location. Maintain the temporary slope drain at regular intervals or as directed by the engineer. At a minimum maintain temporary slope drains until installation of permanent surface drains, storm sewer, and pavement are complete for bridges with finished approaches. Maintain the temporary slope drain at bridges without finished approaches or permanent drainage structures until downstream fill slopes are stabilized to prevent runoff scour.

D Measurement

The department will measure Temporary Slope Drain as each individual location installed, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.151	Temporary Slope Drain	Each

Payment is full compensation for furnishing and maintaining all materials; and for removal of the temporary slope drains.

15.15. Sedimentation Basin, Item SPV.0060.152.

A Description

Design, supply and maintain a sedimentation basin used to de-water the culvert pipes or stormwater ponds.

B Materials

As part of design, provide geotextile fabric or an engineer approved equivalent matching the specifications for Geotextile Fabric Type DF Schedule A.

C Construction

Design a sedimentation basin that is able to filter the contaminated water prior to discharging it back into the lake or adjacent drainage way. Wisconsin DNR has technical standard guidelines for sedimentation basin design. Maintain the sedimentation basin at regular intervals or as directed by the engineer.

D Measurement

The department will measure Sedimentation Basin as each individual basin installed, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.152	Sedimentation Basin	Each

Payment is full compensation for design and approval; furnishing and maintaining each basin including all geotextile fabric; for any polymers required to achieve performance standards; and for removal of the basin.

15.16. Street Sweeping, Item SPV.0075.150.**A Description**

Remove small dirt and dust particles from the roadway using a street sweeper periodically during the project as directed by the engineer.

B (Vacant)**C Construction**

Provide a self-contained mechanical or air conveyance street sweeper and dispose the accumulated material.

D Measurement

The department will measure Street Sweeping by the hour that the street sweeper is on the project picking up and removing debris from the roadway, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0075.150	Street Sweeping	HRS

Payment is full compensation for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

15.17. Jacking Jacking Reinforced Concrete Pipe Class V 36-Inch, Item SPV.0090.100; Class V 42-Inch, Item SPV.0090.101.**A Description**

This work includes jacking a pipe with or without a casing pipe as shown on the plans in accordance to applicable provisions of standard spec 607 and standard spec 608. The pipe will be jacked in place as shown on the plans unless otherwise directed by the engineer.

A subsurface investigation was not performed for the purpose of jacking pipes. It is the contractor's responsibility to ensure the work is performed according to existing subsurface conditions and may include additional data gathering.

B Materials

Furnish 36-inch and 42-inch diameter Reinforced Concrete Class V carrier pipe in accordance with standard spec 607 and standard spec 608.

Casing Pipe

If a casing pipe is used, furnish a casing pipe conforming to ASTM A-53-B with minimum yield strength of 35,000 psi. Casing pipe to be placed by jacking methods shall be of sufficient thickness and axial strength to withstand the forces encountered during the jacking process. The casing pipe shall be sized to accommodate the largest outside diameter of the carrier pipe (including pipe bells) and allow for deflection of the casing pipe and installation of wood blocking or factory-fabricated spacers. Casing pipe shall have a bituminous outside coating and a minimum wall thickness for E-80 loading. The casing pipe field and shop welds shall conform to the American Welding Society (AWS) standard specifications. Field welds shall be complete penetration, single-bevel groove type joints. Welds shall be airtight and continuous for the entire circumference of the pipe and shall not increase the outside pipe diameter by more than $\frac{3}{4}$ -inch, nor shall there be intrusion of the weld metal into the bore of the casing.

Contact Grout

Furnish grout either between the jacked pipe and existing ground or the annular space between the casing pipe and the jacked pipe consisting of a mixture of water, sand and Portland cement, with mineral fillers or admixtures as necessary to achieve a non-shrink, non-bleed, flowable grout. Furnish sand material in accordance to ASTM C404, Size No. 1 and cement in accordance to ASTM C150. Do not use Bentonite or other clay-like materials as an admixture. The grout shall completely fill the voids between the jacked pipe and existing ground or the annular space between the casing pipe and the jacked pipe. The grout shall have a minimum 24-hour compressive strength of 100 psi and a minimum 28-day compressive strength of 200 psi. Submit a copy of the mix design and strength test reports to the Engineer for approval at least seven days prior to use. Sample and test representative portions of grout in accordance with ASTM D4832-10 at each location where pipe will be jacked. Provide 24-hour and 28 day compressive strength results to engineer on the same day the test has been performed.

C Construction

Pipe shall be jacked in place without disturbing USH 41 or STH 172 ramp pavement, embankment, and utilities above the pipe, or disrupting traffic on USH 41 or STH 172 ramps.

Excavate access pit, shaft or approach tunnel in accordance to standard spec 206. The excavation shall not be carried ahead of the pipe far enough to cause caving of the earth. The contractor assumes all risk as to nature and peculiarities of materials to be excavated, and must, at his own expense, be responsible for all pumping, sheathing, bracing, and other work necessary and required to construct, protect, and complete the work.

Concrete pipe joints shall be protected from damage due to jacking pressures.

If a casing pipe is used, weld joints with a continuous circumferential weld. Contractor shall be responsible for providing stress transfer across joints capable of resisting jacking forces applied.

Pipe shall be attached to concrete brick supports to be used as a carrier for insertion into casing. Support and brace pipe to prevent shifting or flotation during filler material placement.

Carrier pipe or casing pipe shall be jacked and bored by selected method to line and grade indicated on drawings.

Upon completion of installation of pipe, completely fill voids the voids between the jacked pipe and existing ground or the annular space between the casing pipe and the jacked pipe.

Backfill casing pipe ends in accordance to standard spec 206 and restore surface.

The contractor will do all excavating necessary to construct shafts in accordance to the grades shown on the plans.

D Measurement

The department will measure Jacking Reinforced Concrete Pipe (Class) (Size) by the linear foot, acceptably completed, measured along the centerline of the pipe.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.100	Jacking Reinforced Concrete Pipe Class V 36-Inch	LF
SPV.0090.101	Jacking Reinforced Concrete Pipe Class V 42-Inch	LF

Payment is full compensation for furnishing concrete pipe, jacking equipment, pit, casing (if utilized), sheeting, bracing, excavation, drainage, dewatering, grout, safety devices, backfilling, disposing of excess materials; for restoration of the work area including grading, shaping, seeding, fertilizing and mulching; for removing and replacing any fencing if required; for obtaining any easements for installing long section of pipe; and for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the contract work.

15.18. Drain Slotted Vane Longitudinal, Item SPV.0090.102.

A Description

This special provision describes furnishing and installing slotted vane drains as shown on the plans, in accordance to standard spec 501, 505, 607, and 611, and as hereinafter provided.

B Materials

The pipe that the vane drain casting rests in shall be 15-inch diameter SDR-35 poly vinyl chloride, (PVC) sewer pipe.

C Construction

Prior to encasing the pipe in concrete, cover the upper end of the slotted drain as shown on the plans, or as approved by the engineer.

Prior to construction operations adjacent to the slotted area of the slotted vane drain pipe, cover the slots on the top of the drain. Remove any material entering the pipe at the contractor's expense.

Exercise care to avoid damage to the slotted vane drainpipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drainpipe at contractor's expense.

D Measurement

The department will measure Drain Slotted Vane Longitudinal by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.102	Drain Slotted Vane Longitudinal	LF

Payment is full compensation for furnishing and installing all materials, including PVC pipe and end cap, slotted vane drain castings, concrete masonry and reinforcement; adjusting bricks; drilling inlet or manhole cover to accommodate connection bolts to vane drain; hauling and placing the pipe; making connections to existing inlets; cleaning out and restoring site of work.

15.19. Temporary Drain Slotted Vane Longitudinal, Item SPV.0090.103.

A Description

This special provision describes furnishing, installing and removing a temporary slotted vane drains and pipe as shown on the plans, in accordance to standard spec 204, 501, 505, 607, and 611, and as hereinafter provided.

B Materials

The pipe that the vane drain casting rests in shall be 15-inch diameter SDR-35 poly vinyl chloride, (PVC) sewer pipe.

C Construction

Prior to encasing the pipe in concrete, cover the upper end of the slotted drain as shown on the plans, or as approved by the engineer.

Prior to construction operations adjacent to the slotted area of the slotted vane drain pipe, cover the slots on the top of the drain. Remove any material entering the pipe at the contractor's expense.

Exercise care to avoid damage to the slotted vane drainpipe. If any section of pipe is damaged or is unsatisfactory as determined by the engineer, replace the drainpipe at contractor's expense.

Conform to standard spec 204.3 for removal of drain slotted vane longitudinal and pvc sewer pipe.

D Measurement

The department will measure Temporary Drain Slotted Vane Longitudinal by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.103	Temporary Drain Slotted Vane Longitudinal	LF

Payment is full compensation for furnishing and installing all materials, including PVC pipe and end cap, slotted vane drain castings, concrete masonry and reinforcement; adjusting bricks; drilling inlet or manhole cover to accommodate connection bolts to vane drain; hauling and placing the pipe; making connections to existing inlets; and for cleaning out and restoring site of work after construction and removal.

15.20. Geosynthetic Clay Liner, Item SPV.0180.151.**A Description**

This special provision describes furnishing and installing a geosynthetic clay liner (GCL) with the necessary appurtenances as shown on the drawings and hereinafter provided.

B Materials

The GCL shall consist of a layer of high shrink-swell sodium bentonite clay encapsulated between two geosynthetics and shall comply with the criteria in Table 1.

For purposes of strength, performance, and integrity, the GCL shall be manufactured by mechanically bonding the geotextile using a needle-punching process without the use of any chemical binders as adhesives. Needle-punched GCLs are those which, by the use of a needling board, have fibers of the non-woven geotextile pushed through the bentonite clay layer and integrated into a woven or non-woven geotextile.

The bentonite sealing compound or bentonite granules used to seal penetrations and make repairs shall be made of the same natural sodium bentonite as the GCL and shall be as recommended by the GCL Manufacturer.

All GCL shall be free of damage or defect. Each package delivered to the job site shall bear the name of the material, the Manufacturer's name or symbol, lot number and roll number, roll length and width, and the total roll weight of the material.

TABLE 1
Requirements for Geosynthetic Clay Liner (GCL)

Material	Property	Test Method	Value ¹
Bentonite ²			
	Swell Index	ASTM D 5890	24 ml/2g min
	Moisture Content	ASTM D 4653	12% max.
	Fluid Loss	ASTM D 5891	18 ml max.
Finished GCL			
	Bentonite Content ³ Mass/Area	ASTM D 5993	0.75 lb/sq ft
	Grab Strength	ASTM D 6768	45 lbs/in.
	Peel Strength	ASTM D 6496	3.5 lbs/in
	Hydraulic Conductivity ⁴	ASTM D 5887	5×10^{-9} cm/sec max.
	Hydrated Internal Shear Strength ⁵	ASTM D 5321 or D6243	500 psf
	Index Flux	ASTM D 5887	1×10^{-8} m ³ /m ² /sec

¹ All values, unless specified otherwise, are minimum average roll values (MARVs) as reported by the specified test methods.

² These parameters are for the bentonite as delivered to the GCL manufacturer, not for the bentonite in the finished product.

³ Bentonite mass per unit area at 0% moisture content.

⁴ At 5 psi confining pressure.

⁵ Specimen hydrated for 24 hours and sheared at a 200 psf normal stress.

C Construction

C.1 Shipping and Storage

The GCL shall be transported to the job site in a manner not to damage the rolls. The liner rolls shall be stored so they are protected from puncture, dirt, grease, water, moisture, mechanical abrasion, excessive heat, ultraviolet light exposure, or other damage. The rolls shall be stored on a smooth surface (not wooden pallets). Rolls shall be

stacked to a height no higher than the height which the lifting apparatus can be safely handled (typically no higher than four).

C.2 Subgrade Preparation

The area to be lined shall be drained and allowed to dry until the surface is firm. The subgrade surface must be firm, unyielding, and able to support people and equipment that must travel over it during installation of the GCL. All cut and fill slopes shall be constructed in accordance to the drawings. Required subgrade fill shall be placed in layers with a maximum thickness of 6 inches prior to compaction. The fill soils shall be disked or worked in such a manner as to obtain a maximum clod size of 4 inches prior to compaction. Each layer shall be compacted by a minimum of one pass over the entire surface of the fill by a fully-loaded rubber-tired scraper or a tamping roller.

Operation of the compaction equipment will be continuous over the entire area during fill operations. Fill materials shall have a moisture content sufficient to ensure the required compaction is achieved. The adequacy of fill moisture content and compaction will be approved by the engineer.

Irregularities and any abrupt grade changes shall be eliminated from the surface prior to placing the GCL. When the GCL is placed, the subgrade shall be dry, smooth, and free of debris, roots, ruts, and stones or any projection of more than 0.5 inch. All projections of more than 0.5 inches shall be removed, crushed, or pushed into the surface with a smooth-drum roller. No equipment tracks or footprint indentations shall be present in the subgrade.

An anchor trench for the liner shall be excavated and backfilled in accordance to the drawings. No loose soil shall be allowed at the bottom of the trench and no sharp corners or protrusions shall exist in the trench. Minimum trench dimensions shall be 18 inches deep and 12 inches wide.

C.3 Placement

The contractor shall confine the work to an area that can be completely installed and covered by the end of the normal working day in a manner that will prevent the occurrence of hydration prior to being covered with the specified cover soils. Daily completion shall be defined as the full installation of the liner, covering around appurtenances, and placement of the specified cover soils.

The GCL rolls shall be deployed using a spreader bar assembly attached to a loader bucket or by other methods approved by the liner Manufacturer. The method chosen to unroll the panels shall not cause wrinkles, folds, or crimps in the GCL and shall not damage the supporting soil. The rolls shall be carefully rolled down the slope and not allowed to unroll freely and out of control. When it is necessary to drag liner panels, a geosynthetic subgrade covering known as a rub sheet shall be used to reduce friction and protect the GCL during placement.

The GCL shall not be deployed during periods of heavy precipitation, in the presence of excessive winds, or in areas of ponded water.

GCL panels shall be placed with the non-woven geotextile side against the subgrade. On slope areas exceeding a steepness of 4H:1V, the long dimension of all panels shall go up and down the slope. This panel orientation shall apply to all covered slopes including corner slopes. Panels on flat areas require no particular orientation. Panels should be placed from the highest elevation to the lowest in the area to be lined to facilitate drainage in the event of precipitation. Panels shall be placed free of tension or stress yet without wrinkles or folds. It is not permissible to stretch the GCL in order to fit a designated area. Panels shall not be dragged across the subgrade into position except where necessary to obtain the correct overlap for adjacent panels.

The top edge of the liner shall be placed in the anchor trench and anchored with compacted backfill. Compact the backfill by wheel rolling with light rubber-tired equipment or a manually directed power tamper.

C.4 Dewatering

Available groundwater information indicates that the groundwater level in the vicinity of the proposed Oneida Street Pond is at approximately elevation 599 to 601 feet. This is above planned permanent pool elevation, and is approximately 9 feet to 11 feet above the planned bottom of liner at Elevation 590 feet. Thus, the pond excavation is expected to encounter the hydrostatic ground water. In addition, perched water trapped in more permeable layers or pockets of soil may be encountered in the roadway embankment above the groundwater elevation during construction. Dewatering with sumps and pumps will probably be needed to facilitate construction of the pond and embankments.

C.5 Seaming

All GCL seams shall be formed by executing a bentonite enhanced overlap to ensure a continuous seal is achieved between panels.

A 6-inch to 9-inch side overlap shall exist at seam locations. The lap line and match lines printed on the liner panels shall be used to assist in obtaining this overlap. The edges of the GCL panels should be adjusted to smooth out any wrinkles, creases, or “fishmouths” in order to maximize contact with the underlying panel.

Seams at the ends of panels should be constructed such that they are shingled in the direction of the grade to prevent flow from entering the overlap zone. The end of roll overlap shall be a minimum of 24 inches. End-of-roll seams shall be located at least 3 feet from the toe or crest of the slope. Panel overlap seams at the base of the slope shall be a minimum of 6 feet from the toe. All seam areas or runs shall be augmented with granular bentonite. Granular bentonite shall be dispersed evenly to cover the entire lapped area from the panel edge to the lap line at a minimum rate of 1 pound per 2 square feet of area covered. Seams shall remain closed during the backfill operation in order to

prevent contamination of the bond surface and to ensure the panels remain in intimate contact, where jointed, at all times.

After the overlying panel is in place, its edge shall be pulled back to expose the overlap zone. Any soil or debris present in the overlap zone or entrapped in the geotextiles shall be removed. A fillet of granular bentonite shall then be poured in a continuous manner along the overlap zone (between the edge of the panel and the overlap line), at a rate of at least one-quarter pound per linear foot. The use of a watering can or line chalker is recommended to improve the uniformity and consistency of the bentonite fillet. This process shall be conducted in accordance to the Manufacturer's instructions.

For penetrations or structures the liner will contact, a 3-inch by 3-inch notch shall be cut or dug in the subgrade around the penetration or structure.

For penetrations, the liner shall be brought up to the penetration and trimmed to fit into the notch. Granular bentonite or a compact mixture of 1 part bentonite to 4 parts soil (by volume), blended dry, shall be placed into the bottom half of the notch. The liner shall then be inserted into the notch, with the remaining area in the notch filled with the granular bentonite or the 1 to 4 mixture, and compacted. A secondary GCL collar shall be placed around horizontal penetrations. The collar shall overlap the GCL a minimum of 12 inches in each direction.

For liner terminated at a structure, granular bentonite or a compact mixture of one part bentonite to four parts soil (by volume), blended dry, shall be placed in the notch and against the structure. The liner shall extend over the notch and a minimum of 3 inches vertically adjacent to the structure.

C.6 Repairs

GCL that has begun to hydrate before being covered with soil shall be removed and replaced with dry GCL. All damaged or flawed material shall be repaired as follows:

Completely expose the affected area.

Remove all soil or other foreign objects.

Place a GCL patch over the exposed area with a minimum overlap of 12 inches on all edges.

Place granulated bentonite between overlap at the rate of 1 pound per 2 square feet of area covered, and spread to a minimum width of 6 inches.

On a sloping surface, fasten augment the bentonite-enhanced seam with construction adhesive.

C.7 Placement of Overlying Materials

Cover soils shall be mineral soil, free of angular stones or other foreign matter which could damage the GCL. Cover soils with high concentrations of calcium (e.g. limestone, dolomite) are not acceptable.

Soil cover shall be placed with low ground pressure equipment. The final thickness of soil cover shall be at least 1 foot over the GCL or as shown on the drawings. For high-traffic areas or roadways, a minimum of 2 feet is required. To prevent damage to the GCL, the initial lift(s) of soil cover shall not be compacted in excess of 85 percent of Modified Proctor density.

No vehicles should be driven directly on the GCL until the proper thickness of cover has been placed. Care should be taken to avoid damaging the GCL by making sharp turns or pivots with equipment.

When covering GCL installed on sloped areas steeper than 4H:1V, the soil cover shall be pushed upslope to minimize tension on the GCL.

The leading edge of GCL panels left uncovered at the end of the working day shall be protected with a waterproof sheet which is adequately secured with sandbags or other ballast.

C.8 Final Tests and Inspection

Upon completion of the work, the installation shall be subjected to a final inspection. All work in the system therein being tested shall be complete, cleaned and ready for use. The work shall meet the requirements as to the lines, grades, cleanliness and workmanship. Any discrepancies shall be repaired.

D Measurement

The department will measure Geosynthetic Clay Liner by the square yard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item.

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.151	Geosynthetic Clay Liner	SY

Payment is full compensation for furnishing, placing and testing Geosynthetic Clay Liner, preparing the subgrade, repairing the GCL as necessary, and placing overlying materials; and all incidentals to complete the work.

15.21. Temporary Ditch Checks.

Complete work in accordance to standard spec 628 and as herein provided. Erosion bales will not be allowed for construction of temporary ditch checks.

Delete standard spec 628.3.14(2) and replace it with the following:

- (2) Construct temporary ditch checks using a manufactured alternative from the PAL. Place temporary ditch checks across ditches at locations the plans show or as the engineer directs immediately after shaping the ditches or slopes. Excavate upstream sumps as the engineer directs.

Delete standard spec 628.4.17 and replace it with the following:

- (1) The department will measure Temporary Ditch Checks by the linear foot acceptably completed.
(Miscellaneous Concrete.

15.22. Concrete Sidewalk.

Supplement standard spec 602.3.2.5 as follows

Saw all sidewalk joints where sidewalk is constructed greater than 6 feet wide.

15.23. Concrete Barrier Curing.

Add the following to standard spec 603.3.1.4:

- (2) When curing compound is applied to concrete barrier in proximity to live traffic, develop a construction plan which includes a containment system to avoid overspray onto traffic and to ensure complete coverage with the curing compound. Submit the construction plan to the engineer for review and approval.

15.24. Concrete Barrier Transition Type V56 to S56 (36-Inch Wide Base), Item SPV.0060.003.

A Description

Construct Concrete Barrier Transition (Type) (Size) in accordance to standard spec 603, details shown in the plans and as hereinafter provided.

B Materials

Furnish materials conforming to standard spec 603.2.

Concrete minimum strength to be 4000 psi.

C Construction

Use construction methods conforming to subsection 603.3 of the standard specifications.

Construct the Concrete Barrier Transition (Type) (Size) to present a smooth, uniform appearance in its final position conforming to the horizontal and vertical lines shown on the plans or as directed by the engineer, and be free of lumps, sags or other irregularities. The top and exposed faces of the barrier shall conform to standard spec 603.3.1.5.

Construct expansion joints in conformance with standard spec 603.3.1.3.

When forming joints before the concrete has hardened, support adjacent portions of the barrier firmly with close fitting shields.

When forming joints after the application of curing compound, treat the exposed faces of the barrier in the vicinity of the joint with curing compound after the forming of the joints.

In transitions between barrier shapes, tie reinforcement bars to Concrete Barrier reinforcement by tying the first vertical bar ± 3 inches from the transition point and lapping any horizontal bars that match.

D Measurement

The department will not measure Concrete Barrier Transition (Type) (Size). The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.003	Concrete Barrier Transition Type V56 to S56 (36-Inch Wide Base)	Each

Payment is full compensation in accordance to standard spec 603.5.

15.25. Concrete Barrier Type S56 (36-Inch Wide Base), Item SPV.0090.001; Concrete Barrier Type S56A (36-Inch Wide Base), Item SPV.0090.002.

A Description

This special provision describes constructing Concrete Barrier (Type) (Size) in accordance to standard spec 603, details shown in the plans and as hereinafter provided.

B Materials

Furnish materials conforming to standard spec 603.2.

Concrete minimum strength to be 4000 psi.

C Construction

Use construction methods conforming to standard spec 603.3.

Construct the concrete barrier to present a smooth, uniform appearance in its final position conforming to the horizontal and vertical lines shown on the plans or ordered by

the engineer, and be free of lumps, sags or other irregularities. The top and exposed faces of the barrier shall conform to standard spec 603.3.1.5.

If constructed by using a slip form machine or similar type equipment, the concrete barrier shall be of well-compacted, dense concrete, and the exposed surfaces conform to standard spec 603.3.1.7. If requested by the engineer, evidence of successful operation of the slip form machine or other equipment may be required.

Feed concrete into the slip form machine at a uniform rate. Operate the machine under sufficient uniform restraint to forward motion to produce a well compacted mass of concrete free from surface pits larger than one inch in diameter and requiring no further finishing, other than that conforming to standard spec 603.3.1.6.

Utilize concrete of such consistency that, after slip forming, it will maintain the shape of the barrier without support.

Construct expansion joints in conformance with standard spec 603.3.1.3.

When forming joints before the concrete has hardened, support adjacent portions of the barrier firmly with close fitting shields.

When forming joints after the application of curing compound, treat the exposed faces of the barrier in the vicinity of the joint with curing compound after the forming of the joints.

In transitions between barrier shapes, tie reinforcement bars to concrete barrier reinforcement by tying the first vertical bar ± 3 inches from the transition point and lapping any horizontal bars that match.

Required Vertical Construction Joint can be constructed in 2 ways: 1) pour the shoulder to the required vertical construction joint, and then pour the barrier full depth (no optional horizontal construction joint), or 2) pour the shoulder to go under the barrier (utilizing the optional horizontal construction joint), within 4" horizontally of the edge of the barrier. The vertical construction joints may be saw cut full depth and sealed within 4" horizontally of the edge of the barrier. Location of saw cut will be determined in the field to match existing conditions. The barrier edge shall not slump over the vertical construction joints by more than 2 inches on each side of the barrier. Saw cut and sealing is incidental to Concrete Barrier Type S56 or Type S56A.

D Measurement

The department will not measure Concrete Barrier (Type) (Size). The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.001	Concrete Barrier Type S56 (36-Inch Wide Base)	LF
SPV.0090.002	Concrete Barrier Type S56A (36-Inch Wide Base)	LF

Payment will be made in accordance to standard spec 603.5, except for sawing pavement and sealing the construction joints, which will be considered incidental to the barrier item.

(NER41-20130129)

15.26. Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer, Item SPV.0090.003; Plastic 2 Layers, Item SPV.0090.004; Plastic/Hay/Plastic or Blankets, Item SPV.0090.005.

A Description

Place protective covering in accordance to standard spec 415.3.13, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Furnish materials that meet the requirements specified in standard spec 415.3.13.2.

C (Vacant)

D Measurement

The department will measure Concrete Curb and Gutter and Barrier, Cold Weather Covering (Type) by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.003	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 1 Layer	LF
SPV.0090.004	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic 2 Layers	LF
SPV.0090.005	Concrete Curb and Gutter and Barrier, Cold Weather Covering, Plastic/Hay/Plastic or Blankets	LF

Payment is full compensation for supplying the plastic, hay, material sufficient to weight down the insulating materials to withstand wind; and for furnishing all labor, tools, equipment, and incidentals required to place, remove, replace and dispose of all covering materials as required during normal concreting operations. Heating of water, aggregates, or both, if deemed necessary by the contractor to maintain placement temperature, is incidental to this item.

15.27. Concrete Curb and Gutter 24-Inch Type D, Item SPV.0090.009.

A Description

This work consists of furnishing all materials and constructing a cast-in-place concrete curb and gutter section as shown on the plans, in accordance to standard spec 601, and as hereinafter provided.

B (Vacant)

C (Vacant)

D Measurement

The department will not measure Concrete Curb and Gutter 24-Inch Type D. The department will use pay plan quantity according to the Pay Plan Quantity article.

E Payment

The department will pay for plan quantities according to the Pay Plan Quantity article at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.009	Concrete Curb and Gutter 24-Inch Type D	LF

Payment is full compensation for excavating and preparing the foundation; for providing all materials, including concrete, and expansion joints; placing, finishing, protecting and curing concrete.

15.28. Colored and Stamped Concrete, 5-Inch, Item SPV.0180.011.

A Description

Construct colored concrete pavement in accordance to the standard specifications, as shown in the plans, and as hereinafter provided.

Concrete contractor must have experience successfully installing stamped and colored concrete and shall provide, upon engineer's request, a written list of references specific to stamped and colored concrete projects in the upper Midwest.

The contractor shall match the colored and stamped concrete installed in the medians on Lombardi Avenue as part of the US 41 project in 2012. Concrete shall conform to the requirements in this Section and shall also match Lombardi Avenue exactly in color, pattern orientation, application of antiquing release agent, concrete color, and all other aesthetic characteristics.

B Materials

B.1 Concrete

Conform to standard spec 405 and standard spec 416 and as follows:

Integrally color the concrete using non-fading synthetic iron oxides conforming to ASTM C979. Follow color pigment manufacturers recommendations for minimum and maximum percentage of loading by weight of the cementitious materials in the mix.

The integral color shall be dark red and shall closely match to Federal Standard 595 Color Server, FS color 10076. Provide manufacturer's color chart for integral color to engineer for approval before use.

Maintain mix characteristics for all colored concrete requiring a matching finish. Use the same source, brand, type, and color of portland cement, supplementary cementitious materials, aggregates and admixtures for colored concrete throughout the project. Use constant cement content, supplementary cementitious material content and water/cementitious materials ratio in the concrete mix to maintain consistent color.

B.2 Concrete Curing

Supply a clear, non-yellowing liquid membrane-forming clear curing compound conforming to ASTM C 1315, Type 1 A

B.3 Admixtures

Use admixtures designed for use and compatible with colored concrete pigments. Do not use calcium chloride or admixtures containing chlorides.

B.4 Mix Approval

B.4.1 General

Perform preliminary laboratory and/or field trial batching to establish the mix proportions necessary to meet the final concrete characteristics.

Submit to the engineer the final mix design including specific sources and/or trade names as applicable for all materials.

Concrete shall have a maximum 4" slump.

B.4.2 Test Panels

At an engineer-determined location on the project, place and finish a 6-foot by 6-foot by 5-inch colored concrete test panel using processes and techniques intended for use on permanent work, including curing procedures, stamping, coloring and sealing. Produce test panels using the same workers who will perform the contract work. Retain samples of cements, sands, aggregates and color additives used in test panels for comparison with materials used in remaining work. For an accurate representation of the desired color or color intensity, produce the colored concrete for the test panel in a minimum batch size of 2 cubic yards or in full cubic yard increments for batch sized greater than 2 cubic yards. Discard excess material.

The engineer will determine acceptance of the test panel color based on review and approval by the department and the Village of Ashwaubenon representatives. Test panel color will be evaluated for approval no earlier than 5 days after the test panel was poured and sealed.

Prepare the concrete surfaces of the colored concrete pavement test panel using the same methods and materials outlined in this section.

B.5 Stamp

Use reusable elastomeric/urethane form liners of the architectural surface treatment(s) as detailed in the plans and hereinafter provided.

Pattern shall be “used brick” running bond with individual brick dimensions of 2 1/4” to 2 3/8” by 7 5/8” to 8”. Maximum relief of the brick formliner shall be 1/2”. Provide sample formliner pattern to engineer for approval before use.

Orientation shall be perpendicular to the roadway to match the orientation used on the US 41 corridor Lombardi Avenue interchange reconstruction project.

B.6 Antiquing Release Agent

Use an antiquing release agent that is compatible with the form liner and coloring materials.

The antiquing release agent color shall be light grey and shall closely match to Federal Standard 595 Color Server, FS color 34086, or to match the antiquing release agent used on the US 41 corridor Lombardi Avenue interchange reconstruction project.

Provide manufacturer’s color chart for antiquing release agents to engineer for approval before use.

B.7 Concrete Sealant

Use concrete sealants that are compatible with the form liner and installation methods.

Prime Sealant: Glossy.

Secondary Sealant: Matte.

C Construction

Construct colored concrete in accordance to standard spec 416 and as herein provided.

Coordinate locations of permanent signage requiring PVC pipe box outs per standard spec 634.3.2.

C.1 Equipment

Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity and mechanical condition for the purposes intended. Repair, improve, replace or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Placement

Produce colored concrete in full cubic yard increments.

Produce consistent colored concrete mixes. Once colored concrete placement has started, the engineer will not allow variations in the amounts, types, or source of materials with the exception of minor adjustments of water and air-entraining agent as necessary. Other changes require the contractor to repeat the mix approval process.

Colored concrete mixes for matching colored items shall be consistent. If the contractor chooses to provide mixes with high early strength concrete, then all colored concrete for matching colored items shall be provided as high early strength concrete.

Schedule colored concrete placement to minimize exposure to rapid drying conditions, wind and full sun, before curing materials are applied. Do not place colored concrete if rain, snow, or freezing temperature is forecast within 24-hours.

Cover and protect adjacent construction and concrete from discoloration and spillage during placement and curing of colored concrete. Remove and replace discolored concrete as the engineer directs.

Perform finishing operations consistently to avoid discoloration in the finished colored concrete. Do not begin finishing until bleed water has left the surface. Addition of surface water for aiding in finishing (often referred to as blessing the concrete) is not allowed. If water is added to the surface of the colored concrete once concrete is in place, the engineer will reject the colored concrete. During final finishing and texturing apply all strokes in the same direction.

Cure colored concrete in accordance to standard spec 415.3.12, using the impervious coating or impervious sheeting method. Protect colored concrete from premature drying and excessive cold or hot temperatures by prompt application of curing materials. Do not allow plastic sheeting to come in contact with colored concrete.

Shake or spray antiquing release agent over concrete surface after applying the color hardeners.

C.3 Form Liner (Stamp) Preparation

Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

C.4 Stamp

Coordinate with the engineer and to verify stamping pattern orientation prior to starting the stamping work. Running bond stamping pattern shall run perpendicular to the roadway to match the orientation used on the US 41 Lombardi Avenue interchange reconstruction project.

Prepare stamp tools with a full, smooth coat of antiquing release agent.

While concrete is still in the plastic state, apply imprinting tools to the surface and press into the concrete to create the desired impression. Finish all surfaces uniformly.

Ensure that the textured surface is free of laitance; sandblasting is not permitted. Grind or fill any blemishes.

The contractor may need to hand apply, shake or spray additional antiquing release agent over concrete surface to achieve the desired result and match approved mock-up and the stamped and colored concrete on the US 41 Lombardi Avenue interchange reconstruction project.

C.5 Finishing

Allow concrete to cure for 24 hours after application of the antiquing release agents and stamp pattern.

Pressure wash concrete surface to remove approximately 80% of the antiquing release agent.

Ensure that concrete is clean and dry before proceeding with concrete sealant.

Spray or roll on a single layer of gloss sealant. Follow by spraying on a single coat of matte finish sealer. Do not roll matte finish sealer onto concrete surfaces.

Protect the colored concrete from damage. Do not permit construction traffic or material storage on colored concrete. Exclude other foot traffic from colored concrete for at least 24 hours after placement.

D Measurement

The department will measure Colored and Stamped Concrete, 5-Inch in accordance to standard spec 405 and standard spec 416.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.011	Colored and Stamped Concrete, 5-Inch	SY

Payment is full compensation for preparing the foundation, unless provided otherwise; for developing mix designs and providing sample panels or test panels; for furnishing materials (including concrete masonry, colored pigments, sealers, joint and bond breakers, and retarders), hauling, preparing, placing, curing, and protecting the concrete; for stamping; for sawing required for construction of colored concrete; for jointing and joint materials, and tie bars; for measuring opening strength including fabricating and testing cylinders, obtaining and testing cores, and evaluating maturity; and for furnishing all removal of colored concrete.

15.29. Concrete Joint Sealer, Item SPV.0180.012.

A Description

Furnish and install joint sealer for concrete pavement and curb and gutter adjacent to concrete pavement as shown on the plans, and as hereinafter provided.

B Materials

Hot-poured elastic type joint sealer shall meet the requirements of the standard specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements Concrete Joint Sealer, Hot-Poured Elastic Type, ASTM Designation: D6690.

C Construction

Place joint sealer as shown on the plans and in accordance to the manufacturer's instructions. All longitudinal, transverse, and construction joints shall be sealed prior to allowing any traffic on the pavement.

D Measurement

The department will measure Concrete Joint Sealer by the square yard of pavement sealed and acceptably completed. The sealing of curb and gutter is considered incidental to the Concrete Joint Sealer placed on the adjacent concrete pavement and no separate measurement will be made.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.012	Concrete Joint Sealer	SY

Payment is full compensation for providing all materials, and for placing materials.

16. Signing and Marking.

16.1. Notice to Contractor – Installation of Village Street Signs.

The Village of Ashwaubenon will be installing street signs on the new traffic signal monotube poles, which will be installed at the Allied Street intersection. Contact the village at (920) 492-2335 seven working days prior to the installation of the traffic signal

monotube poles for mounting of the street signs. Provide all necessary traffic control required for the village to install the street signs.

16.2. Signing.

Perform this work in accordance to standard spec 637.2 and as hereinafter provided.

All yellow warning signs shall have Type F reflective sheeting per standard spec 637.2.2.2.

16.3. Removing Pavement Marking.

Perform this work in accordance to standard spec 646.3.4 and as hereinafter provided.

Pavement Markings required to be removed on permanent pavement (pavement that will remain at the completion of the contract) will be blasted off the pavement. Grinding the markings off the pavement will not be allowed.

16.4. Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch, Item 646.0841.S; 8-Inch, Item 646.0843.S.

A Description

This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking contrast tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish wet reflective pavement marking contrast tape and adhesive material, per manufacturer's recommendation if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking contrast tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth

Cut the groove to a depth of 120 mils $\pm$ 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings

Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position

Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and the pavement marking tape. Use a high-pressure air blower with at least 185 ft³/min air flow and 120 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt

Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft³/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt

Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft³/min air flow and 90 psi air pressure to clean the groove.

C.6 Tape Application

Apply the tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive

- 1) For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:
 - Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations..
 - Apply P-50 during October 1 to April 30, both dates inclusive.
- 2) For the remainder counties:
 - Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking contrast tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement

The department will measure Pavement Marking Grooved Wet Reflective Contrast Tape (Width) for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF
646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.

646-022 (20120615)

16.5. Pavement Marking Grooved Preformed Thermoplastic Words, Item SPV.0060.300; Arrows, Type 2, Item SPV.0060.301; Arrows, Type 3, Item SPV.0060.302.

A Description

This special provision describes grooving the pavement surface, and furnishing and installing preformed thermoplastic pavement marking as shown on the plans, in accordance to standard spec 647, and as hereinafter provided.

B Materials

Furnish 125 mils preformed thermoplastic pavement marking from the department's approved products list. If required, furnish sealant material recommended by the manufacturer.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of preformed thermoplastic pavement marking.

Plane the grooved lines in accordance to the plan details. Use grooving equipment with a free-floating, independent cutting or grinding head. Plane a minimum number of passes to create a smooth groove.

C.2 Groove Depth

Cut the groove to a depth of 120 mils $\pm$ 10 mils deep from the pavement surface or, if tined, from the high point of the tined surface. Measure depth using a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Linear Markings

Cut the groove 1-inch wider than the width of the thermoplastic.

C.4 Groove Position

Position the groove edge in accordance to the plan details.

C.4.1 Linear Marking

Groove at a minimum of 4-inches, but not greater than, 12-inches from both ends of the line segment. Achieve straight alignment with the grooving equipment.

C.4.2 Special Marking

Groove at a minimum of 4-inches from the perimeter of the special marking. Groove separate areas for Word Items.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, after removal of excess water, and prior to pavement marking application. Clean and dry the groove for proper application of the sealant, and placement of the pavement marking. Use a high-pressure air blower with at least 185 ft³/min air flow and 90 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 Asphalt

Use a high-pressure air blower with at least 185 ft³/min air flow and 90 psi air pressure to clean the groove.

Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

C.6 Preformed Thermoplastic Application

Preheat the surface if necessary based on manufacturer's recommendation.

Apply preformed thermoplastic in the groove as per manufacturer's recommendations. If manufacturer's recommendations require a sealant, apply a sealant lower than 91g/l VOC during the following period of time due to Volatile Organic Compound Limitations:

May 1 to September 30, both dates inclusive – the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee.

Use any sealant in the remainder counties and for the remainder of the year. The sealant must be wet.

D Measurement

The department will measure Pavement Marking Grooved Preformed Thermoplastic (Type) by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.300	Pavement Marking Grooved Preformed Thermoplastic Words	Each
SPV.0060.301	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 2	Each
SPV.0060.302	Pavement Marking Grooved Preformed Thermoplastic Arrows, Type 3	Each

Payment is full compensation for cleaning and preparing the pavement surface, and for furnishing and installing the material.

16.6. Fire Hydrant Sign Mounting, Item SPV.0060.903.**A Description**

This special provision describes installing fire hydrant signs in accordance to the detail in the contract plans and in accordance to standard spec 637.

B Materials

B.1 The signs and associated material indicated will consist of the following:

Sign Blade. The blade shall be one aluminum sign blade (18" X 18") with green reflective sheeting for D9-54A on both sides.

Mount. The mount shall be a full surround bracket w/o divider, to fit an 18" X 18" blade.

Bolts. Four 5/16-inch diameter stainless steel bolts with stainless steel self-tightening nuts.

B.2 Select a mount from one of the sources shown below or an approved equal.

Supplier	Model Number
TAPCO 800 Wall Street Elm Grove, WI 53211	203-17
Traffic Signal Company of Wisconsin 6318 West State Street Wauwatosa, WI 53213	203-17
Decker Supply P.O. Box 8008 Madison, WI 53708	W-800

B.3 Mounting Hardware for Blade signs

Mounting the signs to the sound wall shall be done with four 5/16-inch diameter stainless steel bolts with stainless steel self-tightening nuts connecting the two mounting brackets through the wall. One sign shall be installed in each plate, such that both signs are

perpendicular to the sound wall on each side of the wall. Mount fire hydrant signs using 5/16-inch diameter stainless steel bolts with stainless steel self-tightening nuts connecting the sign to the wall.

C Construction – for blade signs

Installing the signs shall consist of drilling four 7/16-inch diameter holes through the noise barrier panel to match hole locations on the mounting brackets to be attached on each side of the panel. The mount shall be attached to the sound barrier in a stable position, not more than two feet from the top of the structure. The mount will not be more than five feet on either side of a vertical line extending up from the actual fire hydrant access point depending on field conditions.

D Measurement

The department will measure Fire Hydrant Sign Mounting for each individual sign, acceptably completed. The sign is paid for separately by reflective sheeting exposed under the item Signs Reflective Type II.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.903	Fire Hydrant Sign Mounting	Each

Payment is full compensation for providing and installing all materials, including labor and hardware, reflective sheeting, drilling holes and anchors.

16.7. Temporary Pavement Marking Epoxy 4-Inch, Item SPV.0090.305; 8-Inch, Item SPV.0090.306.

A Description

This special provision describes furnishing, applying, and maintaining temporary epoxy pavement line markings in accordance to standard spec 649, and hereinafter provided.

B Materials

Replace standard spec 649.2.3 with the following:

Provide epoxy material for temporary pavement marking in accordance to standard spec 646.2. Paint will not be allowed for the temporary pavement marking paid for under this item.

C Construction

Construct pavement marking in accordance to standard spec 649.3.1 and the applicable portions of standard spec 646.3 for epoxy.

D Measurement

The department will measure the Temporary Pavement Marking Epoxy (width) by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.305	Temporary Pavement Marking Epoxy 4-Inch	LF
SPV.0090.306	Temporary Pavement Marking Epoxy 8-Inch	LF

Payment is full compensation for preparing the surface; for providing and placing all markings, including reflectorization; for protecting marking until dry; for replacing failed or deteriorated marking; and for removal.

16.8. Sign Blanks, Item SPV.0165.950.**A Description**

This special provision describes installing and removing temporary sign blanks for sign structures designated in the plans.

B Materials

The contractor shall provide blank signs of a material suitable to endure weathering for the period of use.

C Construction

Sign blanks are attached to a minimum of one-fourth the truss length near its center. The blanks are to project an equal distance beyond the top and bottom chord members. The minimum sign blank dimensions are indicated on the sign structure plans. The minimum vertical clearance as indicated on the structure plans must be maintained.

D Measurement

The department will measure Sign Blanks by the square foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.950	Sign Blanks	SF

Payment is full compensation for furnishing, installing and maintaining sign blanks; and for removing sign blanks at the end of use. The sign blanks will remain the property of the contractor.

17. Lighting/Electrical.

17.1. General Requirements for Electrical Work.

Amend standard spec 651.2, Materials, by adding the following paragraphs:

- (7) The approved products list is located at:
<http://www.dot.wisconsin.gov/business/engrserv/docs/ap3/electrical.pdf>

17.2. Electrical Work By Others.

Under projects 1133-03-77, 1133-09-71 and 1133-09-76, the Wisconsin Department of Transportation Northeast Region Electrical Unit will perform the following work for all WisDOT owned electrical systems:

- Furnish and install the lighting control cabinets.
- Submit application and authorization for electrical service installation.
- Verify the location of all concrete bases.
- Verify the configuration and orientation of cabinet bases and adjacent pullboxes.
- Terminate all wires in the control cabinet.
- Provide identification numbers for sequence plaques.

Under project 1133-09-76, the Wisconsin Department of Transportation Northeast Region Electrical Unit will perform the following work at the interchange of USH 41 and CTH AAA (Waube Ln/Oneida St):

- Furnish monotube poles, arms, steel luminaire arms and monotube plaques.
- Salvage existing traffic signal cabinet.
- Provide and install the new traffic signal cabinet.
- Make application to relocate the electric service.
- Terminate all cables and wire in the control cabinet

Contact information for the Wisconsin Department of Transportation Northeast Region Electrical Unit: Robert Schuurmans, (920) 492-5710, Robert.schuurmans@dot.wi.gov.

17.3. Concrete Bases Type 7, Item 654.0107.

A Description

This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials

In accordance to the plans and standard spec 654.2 and as hereinafter provided.

Furnish a rigid form as required to set the location of all concrete bases in areas with retaining wall backfill. A rigid form shall maintain the required shape without deflection during retaining wall backfill operations.

C Construction

In accordance to the plans and standard spec 654.3 and as hereinafter provided.

Install a rigid form as required to set the location of all concrete bases in areas with retaining wall backfill. This item may require locating the horizontal and vertical position of the concrete base during the retaining wall backfill operation. Rigid forms shall be set plumb and shall be placed to avoid retaining wall soil stabilization straps. Excavation for the concrete bases may not be allowed after the retaining wall backfill is completed. Verify the locations of all concrete bases are accurately represented on the contractor-designed wall plans as submitted to the engineer. Coordinate all construction activities as required.

D Measurement

The department will measure the Concrete Bases Type 7 bid item as each individual base, acceptably completed.

E Payment

In accordance to the plans and standard spec 654.5 and as hereinafter provided.

Payment includes furnishing and installing a rigid form; and for coordination with retaining wall construction operations.

17.4. Electrical Service Main Lugs Only Meter Pedestal (CB 300), Item 656.0400.350; Electrical Service Main Lugs Only Meter Pedestal (CB 100), Item 656.0400.351; Electrical Service Main Lugs Only Meter Pedestal (CB 200), Item 656.0400.352.

A Description

Perform work in accordance to the requirements of standard spec 656, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Amend standard spec 656.2.5, Main Lugs Only Meter Pedestal Service, by adding the following paragraph:

- (2) Meter shall be time of use type.

C Construction

Amend standard spec 656.3.2, Service Lateral, paragraph (1) to read as follows:

(1) The local utility shall furnish and install a 100 A, 240/480 volt AC, single phase, 3-wire underground electrical service lateral. Arrange and assume responsibility for the timely installation of the service lateral by the utility. The lateral shall be terminated at a meter pedestal as the plans show.

Submit the application to the utility for all required electrical services. Pay the utility installation costs promptly and seek reimbursement through the “Electrical Service Lateral” administrative contract bid item.

Arrange for future monthly energy usage billing to be established in the name of the appropriate entity. Contact WisDOT Northeast Region for this information.

Ensure that electrical service is installed and energized a minimum of one week prior to the lighting system activation deadline.

17.5. Underdeck Lighting (R-05-206), Item 659.0600.350; Underdeck Lighting (R-05-209), Item 659.0600.351; Underdeck Lighting (B-05-612), Item 659.0600.352; Underdeck Lighting (B-05-618), Item 659.0600.353; Underdeck Lighting (B-05-619), Item 659.0600.354; Underdeck Lighting (R-05-214), Item 659.0600.361; Underdeck Lighting (R-05-215), Item 659.0600.362; Underdeck Lighting (R-05-216), Item 659.0600.363; Underdeck Lighting (R-05-217), Item 659.0600.364; Underdeck Lighting (R-05-218), Item 659.0600.365; Underdeck Lighting (R-05-219), Item 659.0600.366.

A Description

Perform work in accordance to the requirements of standard spec 659, the plans, standard detail drawings, and as hereinafter provided.

B Materials

In accordance to the plans and standard spec 659.2 and as hereinafter provided.

Furnish stainless steel whisker type bird spikes on top of all horizontal underdeck lighting equipment surfaces including, but not limited to luminaires, junction boxes, conduit bodies and miscellaneous supports.

Stainless steel and cast iron junction boxes are both acceptable materials for all surface mounted junction boxes. Use only one type of junction box at each underdeck lighting system location.

C Construction

In accordance to the plans and standard spec 659.3 and as hereinafter provided.

Install bird spikes in accordance to the manufacturer specifications and as required to rigidly mount the spikes while still allowing for removal during maintenance activities.

D Measurement

The department will measure the Underdeck Lighting (Location) bid item as a single lump sum unit for each structure, acceptably completed.

E Payment

In accordance to the plans and standard spec 659.5 and as hereinafter provided.

Payment includes furnishing and installing bird spikes including all necessary incidental materials.

17.6. Concrete Base Median Barrier Type 1, Item SPV.0060.351; Concrete Base Median Barrier Type 2, Item SPV.0060.352.

A Description

This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials

B.1 Concrete Bases

In accordance to standard spec 654.2.1, Concrete Bases,.

B.2 Junction Boxes

Furnish 24 X 18 X 8 – inch hot-dipped zinc coated cast iron junction boxes with a recessed cover. Junction box shall meet NEMA 4 standards for protection against windblown dust and rain and splashing water. Furnish standard covers with stainless steel hex-head mounting bolts with each box assembly. Boxes shall have a neoprene gasket with provision for allowing drainage out of the box.

Junction boxes shall be furnished with factory installed mounting buttons as required to attach grounding lugs and mechanical connectors as shown on the plans. Provide engineer-approved protection that totally and permanently seals connections with a silicone or rubberized caulk.

Concrete Base Median Barrier Type 1 – One junction box per base required.

Concrete Base Median Barrier Type 2 – Two junction boxes per base required.

B.3 Electrical Wiring Connectors

Furnish rubber insulated secondary connectors rated for copper conductors (minimum 12 AWG) as required for splicing in each location. Secondary connectors shall include silicone grease and CO-OX oxide inhibitor and meet the performance requirements of ANSI C119.1 and C119.4.

B.4 Conduit, Fittings and Expansion/Deflection Couplings

Furnish rigid metallic and schedule 40 PVC conduit and fittings as shown on the plans conforming to the pertinent provisions of standard spec 652, Electrical Conduit.

Furnish UL listed expansion/deflection coupling joints as shown on the plans. Expansion/deflection coupling joints shall be rated for use with rigid metallic conduit and provide a watertight and corrosion resistant connection which allows for movement in all directions. Couplings shall maintain a constant inner diameter and provide a smooth insulated wireway for protection of the conductors. Couplings shall include an integral bonding jumper.

Refer to the plans and details to determine the number of deflection couplings needed per base.

B.5 Expansion Material

Furnish 3/4-inch expansion material in accordance to standard spec 415.2.3, Expansion Joint Filler. Use elastic type joint filler to seal the surface of the expansion joint.

C Construction

Construct concrete bases in accordance to standard spec 654.3, Construction.

Install junction boxes as shown in the plans and as the manufacturer directs.

Install expansion/deflection couplings as the manufacturer directs. Coordinate the connection of the conduit into the receiving roadway barrier prior to pouring the concrete base.

All secondary connectors and miscellaneous wiring, fusing and grounding connections shall be installed in accordance to standard spec 659.3.2, Wiring and Fusing and as the manufacturer directs.

D Measurement

The department will measure Concrete Base Median Barrier (Type) as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.351	Concrete Base Median Barrier Type 1	Each
SPV.0060.352	Concrete Base Median Barrier Type 2	Each

Payment for the Concrete Base Median Barrier bid item is full compensation for providing and installing all materials including conduit, couplings, bushings, caps or plugs, or both, anchor rods, nuts, washers, expansion material, grounding electrodes, exothermic welds, copper equipment grounding conductors, bar steel reinforcement, junction boxes, and concrete; and for excavating, backfilling, and disposing of surplus materials.

17.7. Concrete Control Cabinet Bases Type 10 Special, Item SPV.0060.353.**A Description**

This work shall be in accordance to the requirements of standard spec 654, the plans, standard detail drawings, and as hereinafter provided.

B Materials

In accordance to the plans and standard spec 654.2.

C Construction

In accordance to the plans and standard spec 654.3 s.

D Measurement

The department will measure Concrete Control Cabinet Bases Type 10 Special as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.353	Concrete Control Cabinet Bases Type 10 Special	Each

Payment for the Bases bid item is full compensation for providing and installing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts and washers; for bar steel reinforcement; for excavating, backfilling, restoring asphaltic surfaces, and disposing of surplus materials.

17.8. Luminaires Underdeck LED, Item SPV.0060.358.

A Description

This special provision describes furnishing and installing LED underdeck luminaires at the locations shown in the plan.

B Materials

B.1 Material Qualifications

Furnish a complete list of documentation in accordance to standard spec 651.2 and the following requirements. Be prepared to provide the following materials and/or data to the engineer and the Village of Ashwaubenon for review:

- Fixture IES files (.ies format) for illumination modeling
- Lighting design calculations using the proposed luminaires
- Cut sheets, warranty information and parts list for all equipment
- Luminaire heat dissipation techniques
- Energy usage information
- Color spectrum information
- Optical design and dimming features (if applicable)

The information required in the above list must be furnished to the engineer after letting. The engineer will not approve any materials prior to bid letting. Do not order materials until the engineer approves the list.

B.2 Luminaire

Luminaires shall be constructed of heavy duty cast aluminum with integral, weather-tight LED driver components with heat-sinks to dissipate heat. Each luminaire shall use a terminal block for power input suitable for #2 to #14 AWG wire. The drive current may be field switchable with each unit shall be capable of operating at multiple levels, but is not required. The luminaire shall be designed for flush mounting and be vandal resistant rated with non breakable lens.

B.2.1 Electronic Components

Luminaire may accommodate varied lighting output from high brightness, but is not required. LED shall operate at 4000K (+/-500K per unit) color temperature, minimum 70 CRI LED sources. Drivers shall operate across 120-277V, 50/60 Hertz as standard. LED drivers shall have a power factor greater than 90%. All luminaires shall come equipped with an integral surge suppression protection standard and a quick disconnect harness suitable for mate and break under load provided on power feed to driver.

Luminaires may feature motion sensing dimming activation, but is not required.

B.2.2 Optical / Illumination Performance

Luminaire shall illuminate the pedestrian tunnel using the proposed lighting layout on the subject project to the following preset criteria:

- Luminaire tested and certified by an independent test laboratory to meet the photometric performance criteria established by IESNA LM-79.
- Luminaire shall deliver a minimum of 500 lumens and be rated to consume no more than 35 watts (+/- 10%).
- The resulting illumination on the roadway under the structures with the proposed lighting layout shall meet an average maintained illumination of 1.2 foot-candles and an average-minimum illumination ratio of 3.0:1; all within a tolerance of +/- 10%.

B.2.3 Finish

The luminaire finish shall be black and feature an epoxy primer with a powder topcoat, providing resistance to corrosion, ultraviolet degradation and abrasion. Alternative equivalent finishes shall be approved by the engineer.

B.2.4 Ratings / Certifications

Luminaires shall be rated and/or certified as follows:

- U.L. listed for wet locations
- IP-65 weather fastness rating

C Construction

Install Luminaires Underdeck LED in accordance to the pertinent provisions of standard spec 659 and as the manufacturer directs.

D Measurement

The department will measure Luminaires Underdeck LED as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.358	Luminaires Underdeck LED	Each

Payment is full compensation for furnishing all materials; installing a complete luminaire; and for furnishing all documentation.

17.9. Anchor Bolt Cover Shroud, Item SPV.0060.359.

A Description

This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Furnish aluminum cover shroud in accordance with the plans and standard spec 657.2.2.5 and as hereinafter provided:

Housing and cover plate shall be 12 gauge aluminum. Rivets for attaching the cover plate to the housing shall be aluminum and sized in accordance with the specifications determined by the fabricator of the unit. Provide non metallic washers between cover shroud and steel lock washer.

C Construction

In accordance to the plans and standard spec 657.3 and as hereinafter provided:

Follow all manufacturer installation guidelines for installation of cover shroud and accessories. Apply silicone sealant between the top of the cover shroud body and the aluminum cover plate.

D Measurement

The department will measure Anchor Bolt Cover Shroud as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.359	Anchor Bolt Cover Shroud	Each

Payment is full compensation for furnishing all materials; and for installing a complete unit.

17.10. Pullbox Drain Duct, Item SPV.0090.354.**A Description**

This work shall be in accordance to the requirements of standard spec 652, the plans, standard detail drawings, and as hereinafter provided.

B Materials

In accordance to the plans and standard spec 652.2 and as hereinafter provided:

Furnish pullbox drain duct to an open ditch or storm sewer inlet in locations as shown on the plans. Drain duct shall be a 2-inch (inside diameter) conduit with minimum rating for light duty underground electrical installations.

Both ends of the drain duct shall be permanently capped to prevent access by rodents and insects. Drill eight ½-inch diameter holes in each end to allow for drainage.

C Construction

In accordance to the plans and standard spec 652.3 and as hereinafter provided:

Install drain duct in locations as shown on the plans; and at any pullbox locations that are constructed in a sump position with all conduits pitched towards the pullbox.

Install drain duct outlet to an open ditch to a point 4-inches from the slope intercept (not exposed). Terminate the drain duct into a 12" X 12" X 12" section of #2 coarse aggregate in accordance to the material requirements of Section 501. Grade the aggregate surface to match surrounding slopes.

Install drain duct to storm sewer structures by coring the wall of the structure or by penetrating through the adjusting rings. Drain duct shall extend between 2" (minimum) – 4" (maximum) beyond the inner wall of the structure. All storm sewer structure openings shall be grouted shut after drain duct installation is complete.

D Measurement

The department will measure Pullbox Drain Duct by the linear foot measured from the pullbox to termination point, acceptably completed,.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.354	Pullbox Drain Duct	LF

Payment for the Pullbox Drain Duct bid item is full compensation for providing and installing the duct, fittings, caps, aggregate and all other incidental materials; and for excavating, backfilling, disposing of surplus materials and for making inspections.

17.11. Electrical Service Meter Breaker Pedestal Special (CB 400), Item SPV.0105.375; Electrical Service Meter Breaker Pedestal Special (CB 600), Item SPV.0105.376; Electrical Service Meter Breaker Pedestal Special (CB 700), Item SPV.0105.377.

A Description

Perform work in accordance to the requirements of standard spec 656, the plans, standard detail drawings, and as hereinafter provided.

B Materials

In accordance to the plans and standard spec 656.2 and as hereinafter provided:

Amend standard spec 656.2.3, Meter Breaker Pedestal Service, by adding the following paragraphs:

(2) Furnish meter pedestal with provisions for a minimum of two double-pole breakers in a water-tight outdoor rated enclosure. Furnish and install breakers as required.

(3) Furnish stainless steel square tubing, concrete masonry and steel reinforcement as the plans show for rigidly mounting the meter pedestal.

C Construction

Amend standard spec 656.3.2, Service Lateral, paragraph (1) to read as follows:

(1) The local utility shall furnish and install a 100 A, 120/240 volt AC, single phase, 3-wire underground electrical service lateral. Arrange and assume responsibility for the timely installation of the service lateral by the utility. The lateral shall be terminated at a meter pedestal as the plans show.

Submit the application to the utility for all required electrical services. Pay the utility installation costs promptly and seek reimbursement through the “Electrical Service Lateral” administrative contract bid item.

Arrange for future monthly energy usage billing to be established in the name of the appropriate entity. Contact the Village of Ashwaubenon for this information.

Ensure that electrical service is installed and energized a minimum of one week prior to the lighting system activation deadline.

D Measurement

The department will measure Electrical Service Meter Breaker Pedestal Special as a single lump sum unit of work for each service, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.375	Electrical Service Meter Breaker Pedestal Special (CB 400)	LS
SPV.0105.376	Electrical Service Meter Breaker Pedestal Special (CB 600)	LS
SPV.0105.377	Electrical Service Meter Breaker Pedestal Special (CB 700)	LS

Payment is full compensation for furnishing and installing all materials; for excavation, backfill, and for disposal of surplus materials.

17.12. Traffic Signal Cabinet and Controller, Intersection of CTH AAA and Allied Street, Item SPV.0105.451.

A General

This work shall consist of furnishing and installing traffic signal controller(s) and cabinet(s) as shown on the plans and as hereinafter provided.

The controller shall be EPAC 3108M52 capable of providing the number and sequence of phases, overlaps, and any special logic as described herein. The controller unit shall meet and be operational for, the NEMA TS2 Standard, Section 3, specifications for the Type 1 Actuated (A1) configuration. The controller unit shall be capable of being upgraded by only a firmware/ software installation to meet and be operational for the NEMA TS2 Standard, Section 3, specifications for the Type 1 Actuated/ NTCIP (A1N, Level 2) configuration.

The traffic controllers and cabinets at the intersection shall include any necessary provisions to accommodate fiber optic interconnect.

The contractor shall submit two copies (one copy to the engineer and another copy to the Brown County) of the following: Detection wiring diagrams, cable and routing diagrams, pole to pull box wiring diagrams, conductor layout standards and the associated head arrangements and other pertinent details.

Equipment will be examined and tests will be performed to ensure that proper and sufficient equipment is furnished as is required to complete the signal plan operation and sequence in compliance with the intent of the contract specifications.

All testing and equipment examination shall be in the presence of the contractor's representative furnishing the equipment. The contractor's representative will be notified of any needed modifications or corrections to be accomplished by the contractor.

The cabinet shall not be installed until it is in proper working order and approved by department personnel or their designee.

After the contractor has mounted the cabinet on the cabinet foundation, he shall connect all the field wiring inside the controller cabinet and test the signal circuits for correct operation. The contractor shall connect and test the signal circuits outside the controller cabinet as directed by the engineer. Connecting and testing signal circuits shall be considered part of this item of work.

The controller shall be a fully traffic actuated, solid state, digital microprocessor controller, capable of providing the number and sequence of phases, overlaps, and any special logic as described herein and shown on the accompanying plan.

The controller shall be fully programmed and shall be mounted in a control cabinet to operate as a complete and functioning intersection traffic signal control system. The equipment items included shall be, but not necessarily limited to, cabinet, microprocessor controller, monitor, detector amplifiers, power supply, power distribution panel, interior cabinet wiring, and other associated electrical and electronic equipment interior to the control cabinet that is necessary to provide the type of operation described in these specifications.

Dual ring, programmable for both single and dual entry concurrent timing, eight-phase frame or equivalent shall be provided. Volume density and pedestrian timing shall be provided for all phases. MUTCD flashing capability shall be provided. All controls shall be in accordance to the accompanying plans and with NEMA Standards Publication No. TS2-2003.

The intersection controller unit shall be capable of up to 8-phase operation plus four programmable overlaps regardless of whether preemption, coordination or the special programming is used. The intersection cabinet shall be wired for a minimum of twelve and include twelve 3 circuit load switches.

B Electrical and Operational Aspects.

Buffering. All logic circuit inputs shall be internally buffered to withstand transients and noise, such as might result from normal usage, without damage to any mechanism components.

Timing Features. All controller timing parameters shall be fully programmable from the front panel using switches and/or keyboard inputs, and memory storage features shall be nonvolatile under power off conditions for at least 30 days. The locking, nonlocking detection mode and recall switches shall also be accessible on the front panel.

Minimum Green Timing. The passage timer shall time concurrently with the minimum green timer, so that the duration of the minimum green time is directly adjustable and is independent of the passage time setting.

Dual Ring Timing. In the dual ring application, no more than two phases shall be permitted to time concurrently, and no more than one phase per ring. The controller shall provide barrier protection against concurrent timing of two conflicting phases; no phases assigned to one side of the barrier shall be permitted to time concurrently, if a conflict will occur. The controller shall service calls on a single entry basis, and both rings shall cross the barrier simultaneously in accordance to the following logic: (a) Phases timing concurrently shall terminate simultaneously if both have a gap out due to excessive time between actuations. (b) Phases timing concurrently shall terminate simultaneously if both have a maximum time out. (c) In the event that one phase has not achieved a gap out or maximum time out, the other gapped out phase shall be permitted to leave the gapped out condition and retime an extension when an actuation is received.

Manual (Police) Control. If manual control is used, actuation of the manual control shall permit manual advance of the Walk, Pedestrian Clearance, and Green interval terminations only. Manual termination of Yellow or All Red clearance intervals shall not be permitted.

Red Revert. An adjustable red revert control shall be provided to assure adequate red display when recycling a phase during call-away or red rest mode operation. A call for service to a different phase shall be preceded by an all-red clearance interval, as programmed.

Coordination. The controller shall be capable of operation in progressive coordination systems and mutual coordination and shall contain, but not be limited to, the following external inputs, with all functions brought out:

- Vehicle/Pedestrian Detectors per phase	- Pedestrian Omit per phase
- Phase Omit per phase	- Hold per phase
- Internal Maximum Inhibit per ring	- Phase Omit per phase
- Omit Red Clearance per ring	- Red rest per ring
- Maximum II per ring	- Force-Off per ring
- Stop Timing per ring	- Manual Control per controller
- Select Minimum Recall per controller	- External Start per controller
- Semi-Mode per controller	

Minimum Safe Timings Control. Controllers shall not accept any operator input or stored timing parameters that would result in intervals shorter than the following: yellow clearance - 3.0 seconds, minimum walk - 4.0 seconds, minimum pedestrian clearance - 6.0 seconds. At the beginning of each of the above intervals, the controller shall check the previously stored data against these minimums. If an operator attempts to load an incorrect timing parameter, the controller unit shall output a unique error code on the front panel display. As an alternate to minimum timing control, a coded keyboard entry security feature may be provided.

Indicator Lights and Switches. Indicator lights shall be provided to show the status of each signal phase on. Indicator lights shall also be used to show interval status, phase termination information, and presence of vehicular and pedestrian calls for each phase. An indicator light shall also be provided to show the status of the backup battery charging circuit.

The controller shall have an on off switch and fuse for AC power.

Data Display. The data panel shall be a removable hand held unit. The panel shall contain a display panel consisting of LED display characters. The face of the display shall be scratch, chemical, and solvent resistant. In the case of writing data or parameters into the controller there shall be a visual indication that the data has been accepted. The number of characters shall be adequate to read or write all data and

parameters in decimal format together with a data descriptor in either alpha numeric format, or thumbwheel switch display. A data key shall be provided.

Diagnostic Program. A diagnostic program shall be prepared by the manufacturer of the controller unit which will demonstrate the proper operation of all the inputs, outputs, controls and indicators in the controller, and shall have visual conformation on the front panel. The diagnostic program shall be either resident in the controller or furnished as a separate plug in module. A flow chart and listing of the diagnostic routine shall be furnished with the controller unit.

Preemption.

- (1) **General.** These specifications detail a preemptor program for use with 2 through 8 phase actuated controller.

- a) The preemptor shall be capable of being adaptable to meet the various types of applications such as railroad, fire station, and bridge preempts.

The preemptor shall be internal to the controller and shall not alter controller capability or interchangeability under normal operation. The preemptor shall be completely programmable by the user.

- b) **Preempt Program.**

1. **Preempt Registration.** The preempt call input shall initialize preempt registration and start preempt sequence unless a priority call input is activated which would treat the current controller preemptions state as normal operation and reinitiate call registration.

2. **Preempt Delay.** As soon as the preempt call is registered the preempt delay will begin timing unless preempt delay is set zero or preempt delay omit was active during preempt call registration. Delay shall be programmable from 0 to 255 seconds minimum.

3. As soon as preempt delay is timed out, current running phases not next to be common in preempt sequence are cleared. If the running phases are green and must be cleared, special programmable values of minimum green, walk and pedestrian intervals will time normal times. Concurrently a special preempt clearance is generated. This clearance is designed for advance track signals and any overlaps that may be green and require yellow clearance.

4. **Entry Clearance Phase(s) Select.** Two sequential phases or phase pairs shall be available to be run as programmable fixed time intervals as an entry sequence. Two entry options shall be available, each programmable. The entry sequence shall be capable of being omitted entirely.
5. **Dwell Sequence.** After the entry sequence, the preemptor shall enter the dwell sequence. During the dwell sequence the controller shall cycle between selected phases on a pre-timed or actuated basis. Pedestrian phasing may be normal or omitted entirely. When the dwell sequence is entered, a preempt dwell output shall be generated. The preemptor shall remain in dwell for the length of the dwell extension timer which shall be capable of being held in reset by the preempt call input. Dwell extension shall be omissible by setting the timer to zero.
6. **Exit Sequence.** After leaving dwell, the controller shall enter one or two programmed exit phases(s) or phase pairs sequences. The sequence will time programmed minimum green and place a vehicle call on all phases not omitted. After timing exit phase minimum green the controller shall time and sequence normally.

Time Base Coordination. These specifications detail a Time Base Coordinator program for use with 2 through 8 phase actuated controller.

The units shall allow traffic control equipment to be coordinated without requiring the use of interconnection cables. The units shall coordinate traffic control equipment based on signals from a precise time base which will allow output control signals to be changed at the proper pre-programmed time to achieve the coordinated operation of an intersection with other intersections or the desired operation of an isolated intersection. The coordinators may also use a programmer for a master intersection controller which in turn is interconnected with secondary intersection controllers. The units shall also be capable of providing a command for MUTCD flash, and shall allow a full year program to be initiated and carried out without the necessity of field adjustment for anticipated special events, etc.

The time base coordinator shall be internal to the controller and shall not alter controller capability or interchangeability under normal operation. The time base coordinator shall be completely programmable by the user.

C Cabinet and Cabinet Equipment

C.1 Design

Furnish a door-in-door ground mounted (without anchor bolts) aluminum cabinet of clean-cut design and appearance. Provide a cabinet of minimum size 44 inches wide, minimum 24 inches deep, and minimum 52 inches to maximum 60 inches high. The size of the cabinet shall provide ample space for housing the controller, all of the associated devices which are to be furnished with the controller, all other auxiliary devices herein specified, and all equipment to be furnished as listed in the Description section of this specification.

The cabinet shall comply with the environmental and operating standards outlined in the NEMA TS2 Standard. The cabinet shall provide reasonable vandalism protection. The cabinet shall have a NEMA 3R rating.

Construct the cabinet from type 5052-H32 aluminum with a minimum thickness of 0.125 inches. Furnish the cabinet with a natural, uncoated, aluminum finish inside and outside. Continuously weld all seams. The surface shall be smooth, free of marks and scratches. Use stainless steel for all external hardware.

On the top of the cabinet, incorporate a 1-inch slope toward the rear to prevent rain accumulation. Incorporate a rain channel into the design of the main door opening to prevent liquids from entering the enclosure.

Include an exhaust plenum with a vent screen into the roof of the cabinet. Perforations in the vent screen shall not exceed 0.125 inches in diameter.

Equip the lower section of the cabinet door with a louvered air entrance. The air inlet shall be large enough to allow sufficient air flow per the rated fan capacity. Louvers must satisfy the NEMA rod entry test for Type 3R ventilated enclosures. Secure a washable, fiberglass, removable air filter to the air entrance. The filter shall fit snugly against the cabinet door wall.

Attach an aluminum, easily removable, gasketed cover over the air filter and louver.

C.2 Doors

The cabinet door opening shall be a minimum of 80 percent of the front surface of the cabinet. The main door and police door-in-door shall each close against a weatherproof and dust-proof, closed-cell neoprene gasket seal. The gasket material for the main door shall be a minimum of 0.188 inches thick by 1.00 inch wide. The gasket material for the police door shall be a minimum of 0.188 inches thick by 0.500 inches wide. Permanently bond the gaskets to the cabinet.

Equip the main door with a three-point latching mechanism. The upper and lower locking points of the latching mechanism shall each have a pair of nylon rollers. The handle on the main door shall utilize a hank of stainless steel 3/4 inches minimum diameter. The handle shall include a hasp for the attachment of an optional padlock. The cabinet door handle may turn either clockwise or counterclockwise to open, and shall not extend

outwards past the edge of the door at any time. Position the lock assembly so the key will not cause any interference with the handle, or a person's hand on the handle, when opening the cabinet door.

Include on the main door a solid stainless steel rod stop and catch mechanism capable of rigidly holding the door open at approximately 90, 120, and 180 degrees under windy conditions. The operator must be able to engage and disengage the catch with a shoed or booted foot.

The main door hinge shall be a one-piece, continuous piano hinge with a minimum 0.25 inch stainless steel pin running the entire length of the right side of the door (right-handed). Attach the hinge in such a manner that no rivets or bolts are exposed.

Equip the main door with a brass Corbin tumbler lock No. 2, swing away dust cap, and provide two keys No. 2. Equip the police door-in-door with a standard police lock and provide one key.

Electrically bond the door to the rest of the cabinet with a braided copper grounding conductor.

The length of the grounding conductor shall allow the door to swing fully open, without using the stop bar, without stretching or breaking the grounding conductor. The grounding conductor shall not interfere with normal door operation.

Provide a door switch for the main cabinet door. When the door is opened the switch shall send a signal to the controller sufficient for the controller to log an alarm.

C.3 Shelves and Mountings

Mount a minimum of three vertical "C" channels, compatible with Unistrut channel nuts, on each interior side wall of the cabinet for the purpose of mounting the cabinet components. The channels shall accommodate spring mounted nuts or studs. Install three vertical "C" channels or three slotted rails on the interior back wall of the cabinet. All mounting channels and rails shall extend to within 7 inches of the top and bottom of the cabinets and shall be of sufficient strength to rigidly hold specified shelves and equipment.

Provide two full-width, 11-inch deep, fully adjustable, aluminum shelves to support the controller and other equipment. Mount the lower shelf at a height above the bottom of the cabinet such that the shelf and attached drawer does not interfere with the ability to tilt the terminal facility forward on its hinges for maintenance purposes. Mount the top shelf at least 13 inches above the surface of the lower shelf.

Locate the controller and MMU on the top shelf. Locate the loop detector racks and other auxiliary equipment on the lower shelf. The power supply may be mounted on either shelf.

Provide an under-shelf drawer under the lower shelf. The drawer shall be approximately 20 inches wide and the full depth of the shelf. The drawer shall operate easily and smoothly, and shall have a stop to prevent inadvertently pulling the drawer out of its support. Design the stop to allow purposeful complete removal of the drawer without the use of tools.

C.4 Auxiliary Cabinet Equipment

Ventilate the cabinet by means of a 120 VAC, 60HZ, tube axial compact type fan located in the top of the cabinet plenum. The fan's free delivery airflow shall be equal to or greater than 100 cubic feet per minute. The magnetic field of the fan motor shall not affect the performance of control equipment. The fan bearings shall operate freely. The fan unit shall not crack, creep, warp, or have bearing failure within a seven year duty cycle. The maximum noise level shall be less than 40 decibels. The fan unit shall be corrosion resistant. The thermostat's turn on setting shall be adjustable from 90 to 120 degrees F. The fan shall run until the cabinet temperature decreases below the turn-on temperature setting by approximately 30 degrees F. The fan shall be fused.

Mount an incandescent lamp and socket in the cabinet to sufficiently illuminate the field terminals. Wire the lamp to a 15-amp ON/OFF toggle switch mounted on the rear cover of the police panel as specified in the Cabinet Switches section of this specification.

Provide a 250 watt element heater. Install the heater on the face of the aluminum, louvered air filter cover such that feed air is supplied through the cover. Provide a protective, ventilated cover over the heater. Provide a cord and twist-off plug to an electrical receptacle on the cabinet door.

Provide a thermostat with an adjustable setting from 0 to 100 degrees F. Install the thermostat on the interior ceiling of the cabinet well away from the cabinet light or any heat source. Provide a thermal limit switch to prevent the heater's protective cover from exceeding 170 degrees F.

D Terminals and Facilities

D.1 Terminal Facility

The terminal facility panel shall be constructed from 5052-H32 brushed aluminum of 0.125 inches minimum thickness and formed so as to eliminate any flexing when plug-in components are installed.

Mount the bottom of the terminal facility a minimum of nine inches from the bottom of the cabinet. Hinge the terminal facility at the bottom to allow easy access with simple tools to all wiring on the rear of the panel. It shall not be necessary to remove the lower shelf, the shelf drawer, or any shelf-mounted equipment to hinge down the terminal facility. Provide sufficient slack in the load bay wiring to allow for dropping the load bay.

Fully wire the terminal facility with sixteen load switch sockets: eight phases of vehicular, four phases of pedestrian, and four phases of overlap operation; eight flash transfer relay sockets; one flasher socket; and two terminal facility BIU rack slots. The

use of printed circuit boards is not acceptable on the terminal facility, except printed circuit boards are acceptable for the BIU interface with the load bay. Position the 16 load switch sockets in two horizontal rows of eight sockets each. Support the load switches and flasher by a bracket or shelf extending at least three inches from the terminal facility.

Label all terminals, load switches, and flash transfer relay sockets. Label reference designators by silk-screening on the front and rear of the terminal facility to match drawing designations.

Provide rack mounted BIU's. Provide a dual-row, 64-pin female DIN 41612 Type B connector for each BIU rack position. Provide card guides for both edges of the BIU. Terminal and facilities BIU mounting shall be an integral part of the terminal facility.

Provide two each 16-channel, 8-position, TS2 detector racks, each with an integrally mounted BIU mounting. Racks shall be addressable. Power each detector rack by the cabinet power supply. Fasten the loop detector racks towards the left side of the lower shelf.

For BIU rack connectors, provide pre-wired address pins or jumper plugs corresponding to the requirements of the NEMA TS2 Standard. The address pins or jumper plugs shall control the BIU mode of operation. BIUs shall be capable of being interchanged with no additional programming.

For the terminal facility, contain all field wires within one or two rows of horizontally-mounted Marathon heavy duty terminal blocks. Terminate all field output circuits on an unfused terminal block with a minimum rating of 10 amps. Use mechanical connector lugs rated for copper wire.

Angle the lower section of the terminal block out from the back of the cabinet at approximately a 45 degree angle.

Identify all field input/output (I/O) terminals by permanent alphanumeric labels. All labels shall use standard nomenclature per the NEMA TS2 Standard.

All field flash sequence programming at the field terminals shall be able to be accomplished with the use of only a screwdriver.

Wire field terminal blocks to use three positions per vehicle or overlap phase (green, yellow, red).

Wire one RC network in parallel with each flash transfer relay coil. Permanently label all logic-level, NEMA-controller and MMU input and output terminations on the terminal facility. Identify the function of each terminal position on the cabinet drawings.

Terminal blocks for DC signal interfacing shall have a number 6-32 x 7/32 inch screw as minimum. Functions to be terminated shall be as specified in the listing of Input/ Output Terminals in Section 5 of the NEMA TS2 Standard.

Conform all terminal facility and cabinet wiring to the WSEC. The green/ walk, yellow, and red/don't walk load switch outputs shall be minimum 16 gauge wire. The MMU (other than AC power), controller I/O, and logic ground shall be minimum 22 gauge wire. All wire colors shall be consistent.

D.2 Auxiliary Panels

D.2.1 Vehicle Detection Interface Panel

Provide a 32-position interface panel or two 16-position panels. Each interface panel shall allow for the connection of 32 or 16 independent field loops, respectively. The panels shall have barrier strip type terminals using 8-32 screws and be rated for 20 inch pounds of torque.

Provide a ground bus terminal between each loop pair terminal to provide a termination for the loop lead-in cable ground wire. Secure the interface panels to a mounting plate attached to the left interior side wall of the cabinet.

Provide a cable consisting of 20 AWG twisted pair wires to enable connection to and from the interface panel to a detector rack. The twisted pair wires shall be color-coded wires. Provide a cable of sufficient length to allow the detector rack to be placed on either shelf.

Identify all termination points by a unique number silk screened on the panel.

D.2.2 Intersection Lighting

Provide an intersection lighting control panel as described. The intersection lighting control panel shall consist of an aluminum panel 0.125 inches thick and approximately 5 inches by 10 inches. Determine the actual panel size by the cabinet's mounting rail placement. Attach to the panel a 2 pole-30 amp contactor-120vac coil (Square D #8910DPA32V02 or equal), and a heavy duty six position terminal block (Marathon DJ1606 or equal). Use wire sizes 10AWG for power and load wiring, and 16AWG for control wires. Wire the terminal strip as follows:

1. Control coil
2. L1 in
3. L2 in
4. Neutral in and control coil
5. L1 out
6. L2 out

Protect each output by a MOV (V150LA20A) wired between the output and neutral. Include a photo control (Intermatic #K4021C or equal). Mount the photo control just above the cabinet door and approximately 12 inches from the right side of the cabinet.

Wire the photo control to a 3 position terminal strip using 16AWG wire color coded to match the photo control wiring connected to the intersection lighting control panel.

D.3 Conductors and Cabling

All conductors in the cabinet shall be copper 22 AWG or larger. All 14 AWG and smaller wire shall conform to MIL-W-16878/1, Type B, 600V, 19-strand tinned copper. The wire shall have a minimum of 0.010 inches thick PVC insulation without clear nylon jacket and rated to 105 degrees Celsius. All 12 AWG and larger wire shall be UL or NRTL listed THHN/THWN 90 degrees Celsius, 600V, 0.020 inches thick PVC insulation, and clear nylon jacketed.

Provide controller and MMU cables of sufficient length to allow the units to be placed on either cabinet shelf in the operating mode. Connecting cables shall be sleeved in a braided nylon mesh. Exposed tie-wraps and interwoven cables are unacceptable.

Provide the cabinet configuration with enough SDLC RS-485 Port 1 communication cables to allow full capabilities of that cabinet. Each communication cable connector shall be a 15-pin metal shell D subminiature type. The cable shall be a shielded cable suitable for RS-485 communications. Secure all connecting cables and wire runs by mechanical clamps. Stick-on type clamps are not acceptable. Pre-wire the terminal facility for a Type 16 MMU.

All wiring shall be neat in appearance. Stow excess cable behind the terminal facility or below the shelves in order to allow easy access to the terminal facility and cabinet components. All cabinet wiring shall be continuous from its point of origin to its termination point. Butt type connections/splices are not acceptable.

Wire the grounding system in the cabinet into three separate circuits: AC Neutral, Earth Ground, and Logic Ground.

Optoisolate all pedestrian pushbutton inputs from the field to the controller through the BIU and operate at 12 VAC.

Hook or loop all wire, size 16 AWG or smaller, at solder joints around the eyelet or terminal block post prior to soldering to ensure circuit integrity. Lap joint soldering is not acceptable.

D.4 Cabinet Switches

Locate the following switches on a maintenance panel on the inside of the cabinet door:

- a. Controller On/Off
- b. Cabinet Light
- c. Stop Time (Three Position)
- d. Manual Detector Switches (Three Position)

Position Switch Label Function

Upper Stop Time Place stop time on the controller

Center Run Remove the stop time input to the controller

Lower Normal Connects the MMU to the controller stop time input

Locate the following switches behind the police access door:

- a. Signal/Off
- b. Flash/Normal
- c. Hand/ auto
- d. Coiled hand control and cable

The above switches shall function as follows:

Off: Signals Dark

Signal: Signals On and operating as follows:

Auto Hand

Flash: Signals Flash Signals Flash

Normal: Signals Normal Signals Advance by use of hand control

Provide manual detector switches. Provide a minimum of 16 vehicle detector switches, and four pedestrian detector switches. The switches shall be spring loaded and automatically return to the center position. Wire the vehicle detector switches to detector BIU slot 1. Wire the pedestrian switches to the T&F BIU slot 1. The switches shall operate as follows:

Position Function

Up Detector Disabled

Center Detector Enabled

Down Detector Called

E Power Panel

E.1 Design

The power panel shall consist of a separate module, securely fastened to the interior right side wall of the cabinet. Wire the power panel to provide the necessary power to the cabinet, controller, MMU, cabinet power supply, and all auxiliary equipment. Manufacture the power panel from 0.090-inch, 5052-H32 aluminum. Panel layout shall facilitate field inspection and maintenance accessibility without excessive disassembly or special tools.

Provide a light, tough, transparent, weather-resistant, non-yellowing, thermoplastic cover, rigidly mounted over the full power panel, with access holes for circuit breakers and other equipment, and open on the sides for ventilation.

E.2 Bus Bar

Provide a minimum 20-position neutral bus bar capable of connecting three #12 AWG wires per position.

E.3 Circuit Breakers

House in the power panel the following vertically mounted, single pole, 120 volts AC, 60 Hertz, circuit breakers, with the ON position being up:

One 30-amp signal breaker. This breaker shall supply power for all cabinet functions not powered through one of the other breakers or fuses listed below. Streetlights will be powered from outside the cabinet in the meter breaker pedestal. This breaker shall feed a signal bus supplied through a solid state bus relay and a radio interference line filter. The bus relay, in all cases, shall be a solid state contactor and shall not be jack mounted.

Breakers shall be thermal magnetic type, UL or NRTL listed, with a minimum of 22,000 amp interrupting capacity.

One 15-amp auxiliary breaker. This breaker shall supply power to the fan and heater.

One 10-amp breaker. This breaker shall supply power for control equipment: controller, MMU, and cabinet power supply.

One 20-amp circuit breaker for future use.

Power the cabinet light through the GFI fuse, not a circuit breaker.

E.4 Radio Interference Suppressor

Equip each control cabinet with a single radio interference suppressor (RIS) of sufficient ampere rating to handle the load requirements. Install the RIS at the input power point. The RIS shall minimize interference in both the broadcast and the aircraft frequencies, and shall provide a maximum attenuation of 50 DB over a frequency range from 200 KHZ to 75 MHZ, when used in connection with normal installations. The RIS shall be hermetically sealed in a substantial metal case filled with a suitable insulating compound. The terminals shall be nickel-plated brass studs of sufficient external length to provide space to connect two #8 AWG wires and shall be so mounted that they cannot be turned in the case. Ungrounded terminals shall be properly insulated from each other, and shall maintain a surface leakage distance of not less than 6.35 mm between any exposed current conductor and any other metallic parts. The terminals shall have an insulation factor of 100-200 megohms dependent upon external conditions. The RIS shall be rated at minimum 50 amperes. Design the RIS for operation on 115 VAC +/- 10%, 60HZ, singlephase circuits, and to meet the standards of UL or a NRTL and Radio Manufacturer's Association.

E.5 Bus Relay

Provide a normally-open, 60 amp, solid state relay.

E.6 Surge Protector

Install a plug-in type EDCO SHA-1250, or Atlantic/Pacific approved equal, surge protector across the load terminal of the 10-amp circuit breaker. Install a General Electric Varistor, catalog #V130PA20A, at the load terminals of the circuit breaker from the hot line to the grounded current carrying neutral conductor

E.7 Power receptacles

Mount a 120 VAC 20 amp, NEMA 5-20R GFCI convenience outlet at each of these two locations:

On the interior right side wall above the power panel. The outlet shall be fully operational and fuse protected.

Near the power panel where it will not interfere with power panel maintenance. This outlet is to be wired by field installation personnel.

E.8 Suppressors and RC Network

Provide a suppressor for each 120 VAC circuit that serves an inductive device, such as a fan motor or a mechanical relay, to protect the controller's solid state devices from excessive voltage surges. Such suppressors shall be in addition to the surge protector at the input power point.

Wire one RC network in parallel with each inductive device.

F Auxiliary Devices

F.1 Load Switches

Provide solid state load switches conforming to the requirements of section 6.2 of the NEMA TS2 Standard.

F.2 Flashers

Provide one solid state flasher conforming to the requirements of section 6.3 of the NEMA TS2 Standard.

F.3 Flash Transfer Relays

Provide flash transfer relays conforming to the requirements of section 6.4 of the NEMA TS2 Standard.

F.4 Inductive Loop Detector Units

Provide inductive loop detector units conforming to the requirements of section 6.5 of the NEMA TS2 Standard for 2-channel, rack mount detector units, type C.

F.5 Cabinet Power Supply

Provide one cabinet power supply with each cabinet conforming to the requirements of section 5.3.5 of the NEMA TS2 Standard. Provide LED indicators for the 12 VDC, 12 VAC, and 24 VDC outputs. Provide jack plugs on the front panel for access to the +24 VDC for test purposes.

G Bus Interface Units (BIU)

Provide three BIUs conforming to the requirements of section 8 of the NEMA TS2 Standard.

Provide two BIUs with the main panel and one BIU with one of the detector racks.

H Malfunction Management Unit (MMU)

Provide one shelf-mountable, 16 channel, solid-state MMU with Ethernet capability. The MMU shall meet the requirements of Section 4 of the NEMA TS2 Standard.

The MMU shall be capable of the following:

- Detecting simultaneously active inputs of Green (Walk), Yellow, or Red (Don't Walk) on the same channel.

- Determining if the field signal input states detected as active or inactive by the MMU correspond with the data provided by the Controller Unit.

- Monitoring an optional external watchdog output from a Controller Unit or other external cabinet device.

- Monitoring an intersection with up to four approaches using the Flashing Yellow Arrow (for protected/permissive left and right turn movements).

- Event logging for the following; AC Line log, Prior/Previous Faults log, and Monitor Reset Log. All log entries shall include a date and time stamp.

- All monitor functions shall be capable of being programmed through the front panel, without the need for computers or special programs cards.

- A built-in Diagnostic Wizard shall be provided that displays detailed diagnostic information regarding the fault being analyzed. This mode shall provide a concise view of the signal states involved in the fault, pinpoint faulty signal inputs, and provide guidance on how the technician should isolate the cause of the malfunction.

The MMU shall have an LCD display that allows for viewing of log files and field indications, as well as the viewing and setting of date and time and configuration parameters.

I Traffic Signal Controller

Provide a fully actuated, solid state, digital microprocessor based EPAC 3108M52 controller capable of providing the number and sequence of phases, overlaps, and any special logic as described herein. The controller unit shall meet and be operational for, the NEMA TS2 Standard, Section 3, specifications for the Type 1 Actuated (A1) configuration. The controller unit shall be capable of being upgraded by only a firmware/software installation to meet and be operational for the NEMA TS2 Standard, Section 3, specifications for the Type 1 Actuated/ NTCIP (A1N, Level 2) configuration.

J Equipment List and Drawings

Detailed shop drawings of the control cabinet, equipment layout drawings and wiring diagrams of all equipment installed in the controller cabinet shall be submitted to the city for approval. Two sets of cabinet wiring diagrams shall be contained in a heavy duty clear plastic envelope mounted on the inside of the front door.

At the time of delivery, the contractor shall furnish one set of instruction manuals and an itemized price list for each type of equipment, their subassemblies, and their replacement parts. The instruction book shall include the following information: a) Table of Contents, b) operating procedure, c) step-by-step maintenance and troubleshooting information for the entire assembly, d) circuit wiring diagrams, e) pictorial diagrams of parts locations, f) parts numbers, and g) theory of operation. The instructional manuals shall include itemized parts lists. The itemized parts lists shall include the manufacturer's name and parts number for all components (such as IC's, diodes, switches, relays, etc.) used in each piece of equipment. The list shall include cross references to parts numbers of other manufacturers who make the same replacement parts.

K Manufacturer's Warranty

The contractor shall certify that the equipment meets the required specification and shall supply a complete catalog description. The following documents shall also be provided.

- a. A warranty statement which stipulates that equipment to be supplied shall be warranted for two years from the date of purchase.
- b. Operations manuals.
- c. Maintenance manuals.
- d. Schematic diagrams.
- e. Component and equipment locations within the cabinet.

If a malfunction in the controller unit, or its auxiliary equipment occurs during the warranty period, the supplier shall, within 24 hours after notification (excluding Saturday and Sunday), furnish a like controller unit module, or auxiliary equipment, for use while the warranted unit is being repaired. The isolation of any malfunction during the warranty period shall be the responsibility of the supplier. After the supplier has repaired and returned the equipment, the city shall then return the spare component to the supplier.

Controller Operation. Consistent with customary trade practices, the manufacturer shall furnish a warranty for all electrical or mechanical equipment described herein. The contractor shall turn such warranty over to the owner for potential dealing with the guarantor.

If the contractor is the guarantor, he specifically waives the requirements of Section 289.14(2), Wisconsin Statutes, and agrees as a condition of the contract that the owner may maintain an action against him at anytime during the warranty period for recovery of damages which the city may have sustained by reason of the failure of the contractor to comply with the provisions of the warranty provided to the owner.

During the installation and testing of the controller, the contractor shall provide, at his own expense, a competent representative to oversee, direct and manage the installation and testing of the controller. In the final stages of the installation and testing, the manufacturer's representative shall be available at the job site for consultation until such time as the controller operation is tested and accepted.

If a malfunction in the controller unit or its auxiliary equipment occurs during the warranty period, the supplier shall, within 24 hours after notification (excluding Saturday and Sunday), furnish a like controller unit, module, or auxiliary equipment, for use while the warranted unit is being repaired. The isolation of any malfunction and the repair and/or replacement of any device within the warranty period shall be the responsibility of the supplier. After the supplier has repaired and returned the equipment, the city shall return the spare component to the supplier.

L Measurement

The department will measure Traffic Signal Cabinet and Controller, Intersection of CTH AAA and Allied Street as a complete lump sum unit of work, acceptably completed.

M Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.451	Traffic Signal Cabinet and Controller, Intersection of CTH AAA and Allied Street	LS

Payment is full compensation for furnishing and installing the signal controller and conflict monitor together with cabinet, all required control units, all additional harnesses for preemption, switches for flashing operation, and fittings as are necessary to assure that the controller will perform the said functions.

18. Intelligent Transportation Systems.

18.1. Notice to Contractor – Work by Others.

Transmission of video and data to the Statewide Traffic Operations Center (STOC) in Milwaukee and the Northeast Region Office in Green Bay will depend upon the utilization of an in place wireless and fiber optic communications system. The wireless and fiber optic communications system covers a portion of the USH 41 Construction Corridor in Brown County and will provide a means for ITS components installed under this contract to communicate with network devices located in the communications room at the Northeast Region Office.

An electrical service to be located off Oneida Street will be shared between Signals and ITS. This shared electrical service will be paid for under Signals.

An existing Signals electrical service located off Lombardi Avenue will be shared between Signals and ITS.

18.2. Intelligent Transportation Systems – Control of Materials.

Standard spec 106.2 – Supply Source and Quality

Supplement standard spec 106.2 with the following:

The department will furnish a portion of equipment to be installed by the contractor. This department-furnished equipment includes the following:

Department-Furnished Items
1-Cabinet, Pole-Mounted, CCTV including Electrical Service Breaker Disconnect Box (Used-Pick up from NE Region Office)
14-Detector, Serial Data Interface Microwave Radar (2 Used-Pick up from NE Region Office) (12 New)
1-Combination Ethernet Switch and Terminal Server with Fiber Ports - Single Mode (Used-Pick up from NE Region Office)
1-Pole, 50', Freeway, With Lowering System (New)
1-Pole, 80', Freeway, With Lowering System (New)
1-Camera, Traffic, Dome-Style, Outdoor (New)
1-Encoder, Video MPEG 2/4 (Hardened) 1-Channel (New)
Cable, Fiber Optic, 6 Count, Dielectric (Pick up from NE Region Office)
Cable, Fiber Optic, 72 Count, Dielectric (25,254 Feet-Pick up from NE Region Office) (Remainder New)
100 (Approximate Undistributed Quantity)-Fiber Optic Cable Marker (Pick up from NE Region Office)
4-Termination Panel, Fiber Optic, 6 Count (New)
1-Termination Panel, Fiber Optic, 72 Count (Pick up from NE Region Office)

Coordinate pickup of department-furnished equipment with Randy Asman of the WisDOT NE Region at (920) 492-7719. Depending on the state-furnished item, pick up may occur at any of the following locations:

- WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304
- WisDOT Statewide Traffic Operations Center, 433 W. St. Paul Ave., Milwaukee, WI 53203
- Traffic and Parking Control Company (TAPCO), 5100 W Brown Deer Road, Brown Deer, WI 53223

Transportation of the equipment between the pickup location and the field or interim location(s) is the responsibility of the contractor and is incidental to the bid items in the contract.

Standard spec 106.3 – Approval of Materials

Supplement standard spec 106.3 with the following:

Design/Shop Drawings

Prior to the purchase and/or fabrication of any of the components listed herein, and for any non-catalog item, and no more than 30 days after notice to proceed, submit five copies of design drawings and shop drawings, as required, to the department for review. The items and the drawings that represent them shall meet the requirements of the standard specifications.

Design drawing submissions shall consist of signed and certified designs, design drawings, calculations, and material specifications for required items.

Shop drawings will be required for, but not limited to the following:

- Mounting assemblies for microwave detectors, including their attachment to the structure.
- Any contractor -designed structure or foundation.

The department will complete its review of the material within 30 days from the date of receipt of the submission, unless otherwise specified. The department will advise the contractor, in writing, as to the acceptability of the material submitted. The department may determine that if no exceptions were taken for the item, it is approved, and no further action is required by the contractor; or the item may be partially or totally rejected, in which case modify and/or amend the submittal as required by the department and resubmit the item within 14 days. At this time, the review and approval cycle described above will begin again.

18.3. Intelligent Transportation Systems – General Requirements.

A Description

A.1 General

This contract includes furnishing and installing elements for an Intelligent Transportation System in or along the roadway as shown on the plans.

Unusual aspects of this project include:

- The project includes working on cables and equipment that are carrying data between roadside equipment and the STOC. If an interruption of this service is determined necessary, WisDOT must be notified prior to the interruption. Notify Randy Asman of the WisDOT NE Region at (920) 492-7719 at least 48 hours in advance of a planned interruption of service.

- The department will furnish some of the equipment to be installed. Make a reasonable effort to discover defects in that equipment prior to installing it.

A.2 Surge Protection

Equip every ungrounded conductor wire entering or leaving any equipment cabinet with a surge protector. For purposes of this section, multiple cabinets on a single pole or foundation are considered a single cabinet.

B Materials

B.1 General

Only furnish equipment and component parts for this work that are new and have high quality workmanship. All controls, indicators, and connectors shall be clearly and permanently labeled in a manner approved by the engineer. All equipment of each type shall be identical.

All electrical equipment shall conform to the standards and requirements of the Wisconsin Electrical Code, the National Electrical Manufacturers Association (NEMA), National Electric Safety Council (NESC), Underwriter's Laboratory Inc. (UL) or the Electronic Industries Association (EIA), when applicable. All materials and workmanship shall conform to the requirements of the National Electrical Code (NEC), Rural Electrification Administration (REA), Standards of the American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), requirements of the plans these special provisions, the standard specifications, and to any other codes, standards, or ordinances that may apply. All system wiring, conduit, grounding hardware and circuit breakers shall be in conformance with the National Electrical Code. Whenever reference is made to any of the standards mentioned, the reference shall be considered to mean the code, ordinance, or standard that is in effect at the time of the bid advertisement.

B.2 Outdoor Equipment

All conductive connectors, pins (except pins connected by soldering), and socket contacts shall be gold plated. Acrylic conformal coating shall protect each circuit board side that has conductive traces. Except for integrated circuits containing custom firmware, all components shall be soldered to the printed circuit board.

To prevent galvanic corrosion, all connections between dissimilar metals shall incorporate a means of keeping moisture out of the connection. Where the connection need not conduct electricity, interpose a non-absorbing, inert material or washer between the dissimilar metals. Use nonconductive liners and washers to insulate fasteners from dissimilar metals. Where the connection must conduct electricity, use a conductive sealant between the dissimilar metals. Alternatively, use an insulating gasket and a bond wire connecting the two metal parts.

B.3 Custom Equipment

Equipment that is not part of the manufacturer's standard product line, or that is made or modified specifically for this project, shall conform to the following requirements:

- Where practical, electronics shall be modular plug-in assemblies to facilitate maintenance. Such assemblies shall be keyed to prevent incorrect insertion of modules into sockets.
- All equipment/components must be clearly labeled with the value, part number, tolerance, or other information sufficient to enable a technician to order an exact replacement part.
- Lamps used for indicator purposes shall be light-emitting diodes.
- The printed circuit boards shall be composed of "two-ounce" copper on 1/16-inch thick fiberglass epoxy or equivalent type construction. Holes that carry electrical connections from one side of the boards to the other shall be completely plated through. Multilayer printed circuit boards shall not be used. The name or reference number used for the board in the drawings and maintenance manuals supplied to the department shall be permanently affixed to each board.
- All components shall be mounted so that the identifying markings are visible without moving or removing any part, if practical.

B.4 Environmental Conditions

Equipment shall continue to operate as specified under the following ranges of environmental conditions, except as noted in the specifications for individual pieces of equipment.

1. **Vibration and Shock:** Vehicle speed and classification sensors and any other equipment mounted atop poles or on structures shall not be impaired by the continuous vibration caused by winds (up to 90 mph with a 30 percent gust factor) and traffic.
2. **Duty Cycle:** Continuous
3. **Electromagnetic Radiation:** The equipment shall not be impaired by ambient electrical or magnetic fields, such as those caused by power lines,
4. **Electrical Power:**
 - a. **Operating power:** The equipment shall operate on 120-volts, 60-Hz, single-phase unless otherwise specified. It shall conform to its specified performance requirements when the input voltage varies from 89 to 135 volts and the frequency varies +3 Hz.
 - b. **High frequency interference:** The equipment operation shall be unaffected by power supply voltage spikes of up to 150 volts in amplitude and 10 microseconds duration.
 - c. **Line voltage transients:** The equipment operation shall be unaffected by voltage transients of plus or minus 20 percent of nominal line voltage for a maximum duration of 50 milliseconds. Equipment in the field shall meet the power service transient requirements of NEMA Standard TS-2 when connected to the surge protectors in the cabinets.

5. **Temperature and Humidity:**

- a. **Field equipment:** Equipment in the field shall meet the temperature and humidity requirements of NEMA Standard TS-2. Liquid crystal displays shall be undamaged by temperatures as high as 165 degrees F, and shall produce a usable display at temperatures up to 120 degrees F.
- b. **Equipment in Controlled Environments** shall operate normally at any combination of temperatures between 50 degrees F and 100 degrees F, and humidity's between 5 percent and 90 percent, noncondensing, and with a temperature gradient of 9 degrees F per hour.

B.5 Patch Cables and Wiring

All cables and wiring between devices installed in a single cabinet, in separate cabinets sharing a single concrete base, and in a pole-mounted cabinet and equipment sharing the same pole will be considered incidental to the installation of the devices and no separate payment will be made for them. It is anticipated that this will include fiber optic patch cables, Ethernet cables, serial cables between individual devices and terminal servers, and power cables between individual devices and power sources within the cabinets.

B.6 Surge Protection

Low-voltage signal pairs, including twisted pair communication cable(s) entering each cabinet shall be protected by two-stage, plug-in surge protectors and shall be installed on both ends of camera control cables. The protectors shall meet or exceed the following minimum requirements:

- The protectors shall suppress a peak surge current of up to 10k amps.
- The protectors shall have a response time less than one nanosecond.
- The protector shall clamp the voltage between the two wires at a voltage that is no more than twice the peak signal voltage, and clamp the voltage between each wire and ground at 50 volts.
- The first stage of protection shall be a three-element gas discharge tube, and the second stage shall consist of silicon clamping devices.
- The protector shall also contain a resettable fuse (PTC) to protect against excessive current.
- There shall be no more than two pairs per protector.
- It shall be possible to replace the protector without using tools.

C Construction

C.1 Thread Protection

Provide rust, corrosion, and anti-seize protection at all thread assemblies of metallic parts by coating (non-spray) the mating surfaces with an approved compound. Failure to use an approved compound will result in no payment for the items to which coating was to have been applied.

C.2 Cable Installation

When installing new cables into conduits containing existing cables, remove the existing cables and reinstall the existing cables simultaneously with the new cables. Take every precaution necessary to protect the existing cables. In the event of avoidable damage to the existing cables, replace all damaged cables, in-kind, at no additional expense to the department. When cables are pulled into conduit, use a cable pulling lubricant approved by the cable manufacturer. Submit documentation supporting manufacturer approval of the lubricant to the engineer.

C.3 Wiring

Every conductor, except a conductor contained entirely within a single piece of equipment, must terminate either in a connector or on a terminal block. Provide and install the connectors and terminal blocks where needed, without separate payment. Use approved splice kits instead of connectors and terminal blocks for underground power cable splices.

Permanently label and key connectors to preclude improper connection. Obtain prior engineer approval for the labeling method(s) prior to use.

Terminal blocks must be affixed to panels that permanently identify the block and what wire connects to each terminal. This may be accomplished by silk screening or by installing a laminated printed card under the terminal block, with the labels on portions of the card that extend beyond the block. Installation of terminal blocks by drilling holes in the exterior wall of the cabinet is not acceptable.

Use barriers to protect personnel from accidental contact with all dangerous voltages.

Do not install conductors carrying AC power in the same wiring harness as conductors carrying control or communication signals.

Arrange wiring, including fiber optic pigtails, so that any removable assembly can be removed without disturbing wiring that is not associated with the assembly being removed.

Communication and control cables may not be spliced underground, except where indicated on the plans.

Cables in the STOC or in communication hubs, which are not contained within a single cabinet, shall have at least 10 feet of slack.

C.4 System Operations

If the contractor's operations unexpectedly interrupt ITS service, notify the engineer immediately and restore service within 24 hours. Repair all damaged facilities to the condition existing before the interruption. If service is not restored within 24 hours, the department may restore service to any operating device and deduct restoration costs from payments due to the contractor.

C.5 Surge Protection

Arrange the equipment and cabinet wiring to minimize the distance between each conductor's point of entry and its protector. Locate the protector as far as possible from electronic equipment. Ensure that all wiring between the surge protectors and the point of entry is free from sharp bends.

D Measurement

No separate measurement will be made for the work described in this article.

E Payment

No separate payment will be made for the work described in this article. All work described in this article shall be included under the ITS items in the contract.

18.4. Intelligent Transportation Systems – Conduit.

Supplement standard spec 671.2 with the following:

671.2.4 Locate Wire

Furnish and install a No. 14 AWG stranded copper wire for future locate purposes through each conduit run. Connect the locate wire by using a wire nut at each pull box, manhole, or other access point. Alternatively, use a single wire through the access points. All material furnished under this item shall meet the requirements of standard spec 655.

671.2.5 Duct Sealant

Furnish and install a climate appropriate duct sealant in all conduit openings within an environmentally protected enclosure in order to prevent vermin infestation. Environmentally protected enclosures include, but are not limited to, controller cabinets, dynamic message signs and communications huts.

18.5. Install Pole Mounted Cabinet, Item 673.0225.S.

A Description

This special provision describes installing department furnished aluminum enclosures on poles for intelligent transportation systems equipment.

B Materials

Use stainless steel bolts, nuts, washers and banding unless otherwise specified.

All conductors, terminals, and parts that could be hazardous to maintenance personnel shall be protected with suitable insulating material.

The cabinet will be equipped with service panels. Two panels shall be provided and mounted on the cabinet sidewalls. The left side panel shall be designated as "Input/Communications," and the right side panel shall be designated as the "Service Panel."

The service panel will be equipped with a four-outlet handi-box. Wire the handi-box to the series portion of the filtering surge protector.

C Construction

Fasten the field cabinet securely onto a pole. Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another using stainless steel fittings. Make all power connections to the cabinet as specified in section 656 of the standard specifications.

Drill and tap the cabinet, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Remove all sharp edges or burrs, or both, caused by the cutting or drilling process. Seal all openings to prevent water from entering the cabinet. Mount the surge protector to the service panel.

D Measurement

The department will measure Install Pole Mounted Cabinet as each individual assembly, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
673.0225.S	Install Pole Mounted Cabinet	Each

Payment is full compensation for installing the pole mounted cabinet; for making all connections and conduit/wire entrances; and for furnishing all testing.

18.6. Install Ethernet Switch, Item 675.0400.S.

A Description

This special provision describes installing an Ethernet switch, and providing all necessary associated wiring.

B Materials

The department will furnish the Ethernet switch or it will be an existing and salvaged Ethernet switch. Provide all necessary cables between the Ethernet switch and terminal server or other device.

C Construction

Install the Ethernet switch in a new or existing field cabinet as indicated on the plans. Connect it to devices as shown on the plans, or as directed by the engineer.

D Measurement

The department will measure Install Ethernet Switch by the unit, installed in accordance to the contract, tested, and accepted.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
675.0400.S	Install Ethernet Switch	Each

Payment is full compensation for installing an Ethernet switch; furnishing all necessary incidental hardware; and making all necessary connections.

18.7. Install Video Encoder, Item 677.0300.S.**A Description**

This special provision describes installing a state-furnished video encoder in a pole mounted cabinet or field cabinet as shown on the plans and as hereinafter provided.

B Materials

Provide Category 5 or better Ethernet cable to connect the Ethernet video encoder to the Ethernet switch. The department will furnish the video encoder or it will be an existing and salvaged encoder.

C Construction

Make the necessary electrical and communication network connections to the video encoder. Mount the video encoder in the pole mounted cabinet or field cabinet. Program the video encoder in accordance to the manufacturer's instructions.

D Measurement

The department will measure Install Video Encoder by each individual assembly, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
677.0300.S	Install Video Encoder	Each

Payment is full compensation for installing the video encoder in a pole mounted cabinet or field cabinet; for making all connections; and for furnishing all programming.

677-030 (20100630)

18.8. Ramp Closure Gates Solar Powered 37-FT, Item SPV.0060.400, Ramp Closure Gates Solar Powered 40-FT, Item SPV.0060.401.

A Description

This special provision describes providing freeway on-ramp closure gates on type 5 steel luminaire poles.

B Materials

B.1 General

Provide five user manuals and a listing of vendors and contact information for each manufactured component including flasher electrical components.

The engineer may allow alternate components equal to the manufactured components this special provision specifies. The engineer may require modification of the plan details to accommodate alternates. If the contractor provides an alternate arm and/or mounting adaptor, the engineer will reject that alternate if the contractor cannot demonstrate, to the engineer's satisfaction, that the department can easily remove and replace the arms.

B.2 Components

Furnish one Poles Type 5-Steel designed to carry twin 15-foot luminaire arms and conforming to standard spec 657 and with dimensions for acceptable installation of the ramp gate hardware as shown on the detail. Ensure a contiguous pole by eliminating the hand hole near base of pole, thus allowing uninhibited mounting of the gate pivot assembly.

Amend standard spec 657.2.1, Poles, paragraph (7) to read as follows:

- (7) Construct poles of materials having sufficient rigidity that, with all material installed and in place as the plans show, the centerline of the shaft is vertical. Include dampers in all poles.

Amend standard spec 657.2.1, Poles, by adding the following paragraph:

- (23) Furnish all poles with a manufacturer applied black powder coated finish. Poles powder coated after purchase from the manufacturer will not be accepted without approval from the engineer. Pole cap, nut covers and associated materials shall have a matching powder coated finish.

Furnish galvanized steel nuts and galvanized bolts conforming to ASTM A307 except where designated as high strength (HS) conform to ASTM A325. For the ramp closure gate locking mechanism, furnish a handle nut to fit on a ¾" bolt (B&B Part Number 0605P0539 or approved equal).

Furnish grade A36 steel for the gate supports, gate pivot assembly, and associated hardware that is all galvanized after fabrication by either a mechanical or hot-dip process. Grind welded connections, rough edges, and burrs smooth before galvanizing to ensure a finished appearance. Ensure that the galvanized coating conforms to ASTM A 153.

Furnish upper and lower gate supports, gate pivot assembly and top collar with a manufacturer applied black powder coated finish. Materials powder coated after purchase from the manufacturer will not be accepted without approval from the engineer.

Provide aluminum/fiberglass gate arms of the nominal length the bid item indicates and conforming to plan dimensions. Cover gate arms on two sides with alternating red and white shop-applied type H reflective sheeting conforming to standard spec 637. Also provide a shear pin base that is the manufacturer's "permanent pivot" style. Obtain components from:

B&B Roadway
15191 Hwy 243
Russellville, AL 35654
Tel: (888) 560-2060

Gate arm: model MU605

Furnish a worm gear winch with a single line vertical lift capacity of 2000 lbs. Ensure that the winch has hardened steel gears, a handgrip, permanently lubricated bearings, a reinforced arc-welded reel assembly, and mounting plate. Ensure that the winch can be mounted to the winch mount plate shown on the construction details and the handgrip can be operated without conflict with the pole or ramp gate assembly. Furnish a 2 inch outdoor rated, rot resistant polyester strap for the connection between the worm gear winch and the gate arm pivot assembly.

Furnish solar power system and batteries conforming to the following:

1. Cabinet

Furnish all cabinets with a manufacturer applied black anodized finish. Cabinets anodized after purchase from the manufacturer will not be accepted without approval from the engineer.

The cabinet shall be manufactured of 0.125-inch sheet aluminum. Nominal cabinet dimensions shall be 26.25 inches high by 15.5 inches wide by 14.75 inches deep. The cabinet shall be a two-compartment type; the bottom compartment shall have a neoprene gasket seal so as to prevent battery gases from seeping into the top compartment. The cabinet shall have wire screened insect proof louvers on each side of both compartments for ventilation. The louvers shall be designed to not allow any rain to enter the cabinet. On the bottom of the cabinet there shall be two screened insect proof drain holes.

The door shall be a single unit with a continuous piano hinge riveted to the door and the cabinet. The door shall incorporate a neoprene gasket which, when closed, forms a snug weather tight seal. The door lock shall be a standard police lock, reinforced with a steel plate.

Each cabinet shall be equipped with the necessary rigid back wall for mounting to a traffic signal standard. The cabinet shall have a 1 inch diameter cable entry hole at each mounting location on the back.

2. Control Panel

The control panel containing the electronics shall be mounted in the top compartment of the cabinet using bolts with wing nuts for quick and easy removal. The solar panel and battery shall be connected directly to the solar charge controller terminals. All modular components shall be easily removed for replacement or maintenance.

The solar panels, load, and battery shall be fused for short circuit protection and ease of system maintenance.

Furnish the cabinet with a 10-position terminal block for the 12-VDC power distribution. Power wire terminal strips 10 position feed-through terminal blocks UL-recognized for No. 22 AWG wire through No. 16 AWG wire and UL-rated for 15 amps. The terminals shall be tin-plated brass with brass clips and clamps.

3. Solar Charge Controller

The solar charge controller shall control battery charging through pulse width, modulated, temperature compensating, constant charging algorithm. The solar charge controller will have both a low voltage disconnect (LVD) of 11.4 VDC and a high voltage disconnect (HVD) of 15.5 VDC. A liquid crystal display (LCD) of battery voltage, solar array current, and load current will be available with the solar charge controller. In addition, colored LEDs will display battery state. A green LED will indicate full charge, amber LED will indicate half charge, and a flashing red LED will indicate low charge. A solid glowing red LED will indicate the load has been disconnected. A separate green LED will indicate the battery is being charged.

The solar charge controller will have a load disconnect pushbutton. When the load is disconnected the button will glow red.

The solar charge controller will be capable of operating in a temperature range of -40° C and +85° degrees C.

Wire terminations to the solar charge controller shall be accomplished using Euro style terminations.

4. Solar Panel

The solar panel shall be a 50-watt high efficiency, single crystal silicon solar cells that are laminated to glass with layers of ethylene vinyl acetate (EVA). The panel will be self-cleaning, impact resistant, highly transmissive, tempered glass superstate. The panel module frame will be made of extruded, polymer-coated aluminum alloy or similar approved construction. The panel module junction box will be a UV-resistant, weatherproof wire termination system that handles #14 AWG to #8 AWG wiring. The minimum wattage for the system shall be determined by the supplier, with design calculations submitted with the bid.

5. Solar Panel Mount

The solar panel mounting system shall consist entirely of non-corrosive materials, including aluminum brackets and zinc-plated hardware. The solar panel shall be mounted at angle of 60 degrees from horizontal, shall mount to a pole with a nominal diameter of 4-inches, and shall be designed for minimum of 30 pound per square foot.

6. Battery

The battery shall be a 99-amp-hour type 31 AGM maintenance-free, deep cycle, 12 volt DC battery. It shall contain valve regulation with a self-discharge rate of 1% per month or less (at 20° C). The battery will utilize T881 terminals. The positive terminal will be covered with a rubber boot to protect the battery from accidental shorting. Place dielectric grease on battery terminals.

Furnish gate flasher assemblies conforming to the following:

1. A 2-conductor battery connector, rated 12 volts at 5 amps minimum.
2. A 2-amp weather resistant in-line fuse and fuse holder.
3. Wiring harness made from 6-conductor 14 AWG stranded insulated control cable.
4. 12-volt flasher controller, capable of providing LED flashers with 5% to 100% duty cycle at a one-second pulse repetition rate.
5. A 4-conductor male/female electrical connector pair, 10-amp capacity for each connection, weather resistant, and mounted to allow rapid gate arm replacement.
6. A 5-amp mercury switch with less than 3 ohms "on" resistance and a 20- to 30-degree activation angle. Mount the switch on the gate arm to activate the flashers when the gate arm is lowered more than 45 degrees from vertical.

7. Furnish red LED flashers meeting the requirements of the MUTCD and/or AREMA standards for hue and brightness.

Power consumption	0.45 amp @ 10.5 V
Life expectancy	100,000 hrs
Directionality	0-degree cone orthogonal to face of flasher
Compliance temperature	-40° C to +70° C

Furnish electrical wires with jackets conforming to the following color scheme:

From Solar Panel to Controller Cabinet

Positive = Blue

Negative = White

From Controller Cabinet to Gate Arm Flashers

Common = White

Flasher Circuit #1 = Red

Flasher Circuit #2 = Blue

Furnish structure identification plaques per WisDOT Standard Detail Drawing 12A4.

Furnish a 4-digit combination padlock (Master Lock Model 175DLH or approved equal) for the purpose of preventing unauthorized use of the ramp closure gate system.

C Construction

C.1 Ramp Closure Gates

Under the Ramp Closure Gates bid items, provide ramp closure gate at the locations the plans show. Apply corrosion protection material from the department's approved products list to the interface between the aluminum base and steel pole. The engineer may direct adjustment of the gate arm assembly to ensure the correct vertical and angular orientation of the completed closure gate.

Install solar power system and battery as the plans show. The engineer may direct adjustment of the solar power unit to ensure the correct orientation to the sun.

Connect the battery to the wiring harness through the female side of a 2-terminal polarized electrical connector. Connect male side of this connector to the flasher controller and the female side of a weatherproof polarized 4-conductor electrical connector.

Attach the male side of the 4 conductor electrical connector, mercury switch, wiring harness and the three LED flasher units to the portion of the flasher assembly mounted on the breakaway portion of the gate arm. Adjust mercury switch so that as the gate arm is lowered to a maximum of 45 degrees from the vertical, the gate flasher assembly is energized, and the LEDs begin to flash. Ensure that when the gate arm is raised to a minimum of 15 degrees from vertical, the mercury switches the gate flasher assembly off.

Install structure identification plaques per WisDOT Standard Detail Drawing, Structure Identification Plaques, Ramp Gates, Sign Bridges and Overhead Sign Supports, and Traffic Signals.

D Measurement

The department will measure the Ramp Closure Gates Solar Powered 37-FT and Ramp Closure Gates Solar Powered 40-FT as each individual installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.400	Ramp Closure Gates Solar Powered 37-FT	Each
SPV.0060.401	Ramp Closure Gates Solar Powered 40-FT	Each

Payment for the Ramp Closure Gate Solar Powered is full compensation for providing ramp closure gates including support poles with a black powder coated finish, gate arm assemblies, guides and collars, gate arms, solar power system, cabinets, wiring and batteries, and gate flashers.

18.9. Pedestal Bases Black, Item SPV.0060.402.

A Description

Complete work in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Amend standard spec 657.2.5, Pedestal Bases, paragraph (1) to read as follows:

Furnish cast aluminum alloy pedestal bases designed as specified for traffic signal support structures in standard spec 657.2.1(1) and selected from the department's approved products list. Ensure that castings are true to pattern in form and dimensions and free from pouring faults, sponginess, cracks, sharp edges, blow holes, and other defects in positions affecting strength and value for the service intended. Thread all casting collars to mate with the traffic signal standards furnished for the contract and specified in standard spec 657.2.2. Furnish all bases with a manufacturer applied black anodized finish. Bases anodized after purchase from the manufacturer will not be accepted without approval from the engineer.

C Construction

Construct in accordance to the plans and standard spec 657.3.

D Measurement

The department will measure Pedestal Bases Black as each individual installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.402	Pedestal Bases Black	Each

Payment is full compensation for providing and installing the pedestal base, mechanical grounding connector, and related hardware; for leveling shims if required; and for providing a black anodized finish.

18.10. Transformer Bases Breakaway 11 ½-Inch Bolt Circle Black, Item SPV.0060.403.**A Description**

This work shall be in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Amend standard spec 657.2.6, Transformer Bases, paragraph (1) to read as follows:

Furnish cast aluminum alloy transformer bases designed as specified for traffic signal support structures in standard spec 657.2.1(1) and selected from the department's approved products list. Ensure that castings are true to pattern in form and dimensions and free from pouring faults, sponginess, cracks, sharp edges, blow holes, and other defects in positions affecting strength and value for the service intended. Furnish all bases with a manufacturer applied black anodized finish. Bases anodized after purchase from the manufacturer will not be accepted without approval from the engineer.

C Construction

Construct in accordance to the plans and standard spec 657.3.

D Measurement

The department will measure Transformer Bases Breakaway 11 ½-Inch Bolt Circle Black as each individual installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.403	Transformer Bases Breakaway 11 ½-Inch Bolt Circle Black	Each

Payment is full compensation for providing and installing the transformer base, mechanical grounding connector, and related hardware; for leveling shims if required; and for providing a black anodized finish.

18.11. Traffic Signal Standards Aluminum 15-FT Black, Item SPV.0060.404.

A Description

Complete work in accordance to the requirements of standard spec 657, the plans, standard detail drawings, and as hereinafter provided.

B Materials

Amend standard spec 657.2.2.4 Traffic Signal Standards, paragraph (1) to read as follows:

Furnish standards consisting of extruded seamless aluminum alloy 6061-T6 manufactured conforming to ASTM B241, or porthole extruded aluminum alloy 6061-T6 manufactured conforming to ASTM B429. Furnish all standards with a manufacturer applied black anodized finish. Standards anodized after purchase from the manufacturer will not be accepted without approval from the engineer. Standard cap and associated materials shall have a matching anodized finish. Also conform to the following:

- Threaded on one end, tapered, and conforming to national pipe threading dimensions and normal practice.
- Outside dimension of 4 ½ inch.
- Schedule 80 aluminum pipe.

C Construction

Construct in accordance to the plans and standard spec 657.3.

D Measurement

The department will measure Traffic Signal Standards Aluminum 15-FT Black as each individual installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.404	Traffic Signal Standards Aluminum 15-FT Black	Each

Payment is full compensation for providing and installing the traffic signal standard, related hardware and for providing a black anodized finish.

18.12. Communication Manhole, Item SPV.0060.405.

A Description

This special provision describes furnishing and installing a communication manhole and cover in accordance to standard spec 611.

B Materials

Supply materials in accordance to the plans and standard spec 611.2.

C Construction

Construct in accordance to the plans and standard spec 611.3.

Modify standard spec 611.3.1 General, paragraph (7) to read as follows:

- (7) Place precast reinforced bases on a 12-inch bed of uniformly compacted granular material conforming to standard spec 209.

Modify standard spec 611.3.2 Connections, paragraph (3) to read as follows:

- (3) Permanently attach support assemblies to the manhole wall and mortar seal around all entering conduits.

Modify standard spec 611.3.6.1 General, paragraph (2) to read as follows:

- (2) Furnish and install Type Q manhole covers stamped with “WISDOT COMMUNICATIONS” in accordance to the plans. Refer to standard detail drawing 8D17 for dimensions of Type Q manhole covers.

D Measurement

The department will measure Communication Manhole as each individual installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.405	Communication Manhole	Each

Payment is full compensation for furnishing and installing the communication manhole in accordance to standard spec 611, plans and this special provision.

18.13. Tracer Test Station, Item SPV.0060.406.

A Description

This special provision describes furnishing and installing tracer test station marker posts.

B Materials

Furnish tracer test station marker posts with high-impact plastic, stainless steel hardware and a minimum of five standard terminals. Ensure post material is fade resistant and UV stable.

C Construction

Install tracer test stations as shown on the plans or as directed by the engineer. Make connections to tracer wires as appropriate.

D Measurement

The department will measure Tracer Test Station as each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.406	Tracer Test Station	Each

Payment for Tracer Test Station is full compensation for furnishing and installing all materials, making all necessary connections, for restoration of ground to original condition including topsoil, sand, concrete, or other required materials; and for disposing of surplus materials.

18.14. Install Fiber Optic Cable Marker, Item SPV.0060.407.**A Description**

This special provision describes installing department-furnished fiber optic cable markers.

B Materials

The department will furnish the fiber optic cable markers.

C Construction

Install fiber optic cable markers in accordance to standard spec 671.3.3.

D Measurement

The department will measure Install Fiber Optic Cable Marker as each individual installed unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.407	Install Fiber Optic Cable Marker	Each

Payment for Install Fiber Optic Cable Marker is full compensation for installing all materials including restoration of ground to original condition including topsoil, sand, concrete, or other required materials; and for disposing of surplus materials.

18.15. Install Termination Panel, Item SPV.0060.408.**A Description**

This special provision describes installing department-furnished fiber optic termination panels.

B Materials

Fiber optic termination panels will be furnished by the department. Provide mounting hardware as necessary.

C Construction

Install 6-count fiber optic termination panels in pole or base mounted field cabinets. Install a 72-count fiber optic termination panel in the communications room at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Install termination panels as shown on the plans, or as directed by the engineer.

D Measurement

The department will measure Install Termination Panel as each individual installation, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.408	Install Termination Panel	Each

Payment is full compensation for installation of the fiber optic termination panel, furnishing and installing all necessary hardware.

18.16. Install IP Radio, Item SPV.0060.409.**A Description**

This special provision describes installing a department-furnished IP radio and associated antenna.

B Materials

The department will furnish the IP radio and antenna or it will be an existing and salvaged IP radio and antenna. Provide all necessary cabling between the IP radio and the associated antenna. Provide all necessary mounting hardware.

Provide an outdoor rated Category 5E or RS422 serial cable between the IP radio and control devices located in a controller cabinet.

C Construction

Mount the IP radio and antenna as indicated on the plans. Make connections between the IP radio and antenna, as well as other devices as shown on the plans, or as directed by the engineer.

D Measurement

The department will measure Install IP Radio as each individual installed unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.409	Install IP Radio	Each

Payment is full compensation for installation of the IP radio and associated antenna, furnishing and installing all necessary hardware, making all necessary connections, and for testing.

18.17. Salvage Camera Assembly, Item SPV.0060.410.**A Description**

This special provision describes salvaging an in place camera assembly.

B Materials

Provide all tools and equipment necessary to salvage the in place camera assembly.

C Construction

Prior to salvaging, the Field System Integrator must determine if the camera assembly is fully functional. If any part of the camera assembly is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place camera assembly at the location indicated on the plans. Remove all mounting hardware associated with the camera assembly. Remove all cables/wires connected to the camera back to the control cabinet.

Camera assemblies to be reinstalled will be paid for under the Install Camera Assembly bid item. Reinstall camera assemblies as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example). Reinstall and make operational camera assemblies within 48 hours of removal.

Deliver camera assemblies that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to reinstallation or delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage Camera Assembly as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.410	Salvage Camera Assembly	Each

Payment is full compensation for salvaging the camera assembly.

18.18. Salvage Pole Mounted Cabinet, Item SPV.0060.411.**A Description**

This special provision describes salvaging an in place pole mounted cabinet.

B Materials

Provide all tools and equipment necessary to salvage the in place pole mounted cabinet.

C Construction

Prior to salvaging, the Field System Integrator must inspect the in place pole mounted cabinet for damage. If the pole mounted cabinet is found to be damaged, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place pole mounted cabinet at the location indicated on the plans. Remove all mounting hardware associated with the pole mounted cabinet.

Pole mounted cabinets to be reinstalled will be paid for under the Install Pole Mounted Cabinet bid item. Reinstall pole mounted cabinets as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example). Reinstall the pole mounted cabinet within 48 hours of removal.

Deliver pole mounted cabinets that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to reinstallation or delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage Pole Mounted Cabinet as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.411	Salvage Pole Mounted Cabinet	Each

Payment is full compensation for salvaging the pole mounted cabinet.

18.19. Salvage Ethernet Switch, Item SPV.0060.412.**A Description**

This special provision describes salvaging an in place Ethernet switch.

B Materials

Provide all tools and equipment necessary to salvage the in place Ethernet switch.

C Construction

Prior to salvaging, the Field System Integrator must determine if the Ethernet switch is fully functional. If any part of the Ethernet switch is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place Ethernet switch at the location indicated on the plans. Remove all mounting hardware associated with the Ethernet switch. Remove all cables/wires connected to the Ethernet switch back to the next connected device.

Ethernet switches to be reinstalled will be paid for under the Install Ethernet Switch bid item. Reinstall Ethernet switches as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example). Reinstall and make operational Ethernet switches within 48 hours of removal.

Deliver Ethernet switches that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to reinstallation or delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage Ethernet Switch as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.412	Salvage Ethernet Switch	Each

Payment is full compensation for salvaging the Ethernet switch.

18.20. Salvage Video Encoder, Item SPV.0060.413.**A Description**

This special provision describes salvaging an in place video encoder.

B Materials

Provide all tools and equipment necessary to salvage the in place video encoder.

C Construction

Prior to salvaging, the Field System Integrator must determine if the video encoder is fully functional. If any part of the video encoder is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place video encoder at the location indicated on the plans. Remove all mounting hardware associated with the video encoder. Remove all cables/wires connected to the video encoder back to the next connected device.

Video encoders to be reinstalled will be paid for under the Install Video Encoder bid item. Reinstall video encoders as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example). Reinstall and make operational video encoders within 48 hours of removal.

Deliver video encoders that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to reinstallation or delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage Video Encoder as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.413	Salvage Video Encoder	Each

Payment is full compensation for salvaging the video encoder.

18.21. Salvage IP Radio, Item SPV.0060.414.**A Description**

This special provision describes salvaging an in place IP radio and associated antenna.

B Materials

Provide all tools and equipment necessary to salvage the in place IP radio and associated antenna.

C Construction

Prior to salvaging, the Field System Integrator must determine if the IP radio is fully functional. If any part of the IP radio is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place IP radio and associated antenna at the location indicated on the plans. Remove all mounting hardware associated with the IP radio and antenna. Remove all cables/wires connected to the IP radio and antenna back to the next connected device.

IP radios to be reinstalled will be paid for under the Install IP Radio bid item. Reinstall IP radios as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example). Reinstall and make operational IP radios within 48 hours of removal.

Deliver IP radios that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to reinstallation or delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage IP Radio as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.414	Salvage IP Radio	Each

Payment is full compensation for salvaging the IP radio and associated antenna.

18.22. Salvage Mounted Controller Microwave Detector Assembly, Item SPV.0060.415.**A Description**

This special provision describes salvaging an in place mounted controller microwave detector assembly.

B Materials

Provide all tools and equipment necessary to salvage the in place mounted controller microwave detector assembly.

C Construction

Prior to salvaging, the Field System Integrator must determine if the microwave detector is fully functional. If any part of the microwave detector is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place microwave detector at the location indicated on the plans. Remove all mounting hardware associated with the microwave detector. Remove all cables/wires connected to the microwave detector back to the next connected device.

Microwave detectors to be reinstalled will be paid for under the Install Mounted Controller Microwave Detector Assembly bid item. Reinstall microwave detectors as indicated on the plans or as directed by the engineer, including any new materials required (potentially mounting hardware and cables for example).

Deliver microwave detectors that will not be reinstalled to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to reinstallation or delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal, transport, or reinstallation shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage Mounted Controller Microwave Detector Assembly as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.415	Salvage Mounted Controller Microwave Detector Assembly	Each

Payment is full compensation for salvaging the mounted controller microwave detector assembly.

18.23. Salvage Solar Power System, Item SPV.0060.416.**A Description**

This special provision describes salvaging an in place solar power system for a mounted controller microwave detector assembly.

B Materials

Provide all tools and equipment necessary to salvage the in place solar power system.

C Construction

Prior to salvaging, the Field System Integrator must determine if the solar power system is fully functional. If any part of the solar power system is found to not meet original manufacturer's specifications, contact Randy Asman of the WisDOT NE Region at (920) 492-7719.

Carefully remove the in place solar power system at the location indicated on the plans. Remove all mounting hardware associated with the solar power system. Remove all cables/wires connected to the solar power system back to the next connected device.

Deliver solar power systems to Randy Asman at the WisDOT NE Region Office, 944 Vanderperren Way, Green Bay, WI 54304. Contact Randy Asman at (920) 492-7719 at least 24 hours prior to delivery. Alternate delivery locations may be determined at that time.

Storage of salvaged materials prior to delivery to the NE Region is the responsibility of the contractor and is incidental to this item.

Any salvaged materials damaged during removal or transport shall be repaired or replaced at the expense of the contractor.

D Measurement

The department will measure Salvage Solar Power System as each individual salvaged unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.416	Salvage Solar Power System	Each

Payment is full compensation for salvaging the solar power system.

18.24. Remove Wood Pole, Item SPV.0060.417.**A Description**

This special provision describes the removal of an in place wood pole.

B Materials

Provide all tools and equipment necessary to remove the in place wood pole.

C Construction

If applicable, coordinate with Randy Asman of the WisDOT NE Region at (920) 492-7719 and WPS (as necessary) to disconnect existing temporary power service prior to removal of the wood pole.

Carefully remove the in place wood pole at the location indicated on the plans.

Dispose of removed materials off DOT right-of-way.

D Measurement

The department will measure Remove Wood Pole as each individual removed wood pole, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.417	Remove Wood Pole	Each

Payment is full compensation for removal and disposal of the wood pole.

18.25. Exposing Existing Utility, Item SPV.0060.418.**A Description**

This work includes exposing existing utilities under paved and unpaved surfaces, and providing both lateral and depth measurements for use in determining potential utility conflicts.

B Materials

B.1 Granular Backfill

Furnish granular backfill that conforms to standard spec 209.

B.2 Slurry Backfill

Use aggregates that conform to standard spec 501 for grade A concrete. Weigh aggregates at a batch plant suitable for batching concrete masonry. Mix and deliver to the project site using a truck mixer. Add enough water to enable the mixture to flow readily.

C Construction

C.1 General

Coordinate with and gain approval of the engineer for exposing existing utilities. Notify representatives of the utility owner or their agents of this work at least 24 hours prior to the work so that they may be present when the work commences.

C.2 Excavation

Remove all paved and unpaved surfaces at locations where the existing utility is being exposed. Saw or remove concrete and asphaltic pavements to the nearest joint. Remove all pavement surfaces in such a way that all existing edges consist of a true line having a perpendicular edge with no unraveling. Maintain drainage at all times in accordance to standard spec 205.3.3. Take precautions in order to prevent any undermining of the existing roadway that may include all necessary temporary shoring. Perform work in accordance to all applicable laws, ordinances, rules, regulations, and OSHA standards.

Expose all utility locations within a given location to a minimum depth of 18-inches below the bottom of each utility. Excavate in a manner that protects the integrity of the utilities and prevents any damage to wrappings or protective coatings such as by any mechanical method or hand digging. Notify the utility owner promptly if damage or interruption of service occurs. Repair all damage caused to such utilities resulting from negligence or carelessness on the part of the contractor's operation at contractor expense.

Take all lateral and depth measurements in US feet and tenths thereof. Identify horizontal locations of each exposed utility with a coordinate northing and easting referenced to the Wisconsin County Coordinate System (WCCS), Milwaukee County, NAD 83 (91) South Zone. Provide vertical elevations for each exposed utility and reference to the National Geodetic Vertical Datum of 1929.

Continue to keep a utility location exposed and available for visual inspection until the completion of all work at that particular location. Protect utility locations that remain exposed overnight or for prolonged periods of time with traffic-rated steel plating, safety barriers, and all necessary traffic control devices that may be required under applicable standards or as directed by the engineer.

C.3 Backfilling

Upon completion of the utility exposure, restore the location in kind to its original condition. Use granular backfill to backfill the exposed utility locations to the subgrade elevation except for areas located within local streets. For locations where granular material is used to an elevation of 18-inches above each exposed utility, use a mixture consisting substantially of sand with all particles retained on a 1-inch (25.0 mm) sieve removed. Use remaining granular material conforming to the specifications of backfill for trench excavation. When exposed utility locations fall within local streets or city right-of-way, use slurry backfill to fill the entire location to the subgrade elevation.

Restore concrete pavement and concrete base course to the depth found in the existing roadway. Replace all locations that fall within live lanes of any roadway or pedestrian traffic with a high early-strength concrete pavement mix design having a depth equivalent to the existing pavement structure unless directed otherwise by the engineer. Locations that are closed to through traffic may use an approved concrete pavement mix conforming to standard spec 501. If directed by the engineer, tie concrete pavement and/or doweled to the existing pavement according to the standard detail drawing for concrete pavement. Use HMA Pavement Type E-3 for locations requiring asphaltic pavement, unless otherwise directed by the engineer. Place the HMA pavement in lifts to a depth as directed by the engineer. Apply tack coat to composite pavement structures and between lifts.

Place base aggregate dense between the subgrade surface and the bottom of the pavement. In grassy areas, place 4-inches of topsoil, sod or seed and mulch, and fertilizer. Alternate restoration methods may be used upon written approval from the engineer.

C.4 Documentation

Provide documentation to the engineer and include the coordinates, elevations, and sketches of the utility locations tied to known features in the plans. Reference each utility to a proposed alignment with a station and offset. Document the size and/or diameter, composition, and a description of each utility as well as the location of the elevation with respect to each utility. Supply digital photographs of the uncovered utility to the engineer in jpeg format for future reference.

D Measurement

The department will measure Exposing Existing Utility as a unit for each location, acceptably completed. A location may have multiple utilities located within the same exposure area. An exposure area will include all utilities within 6 lateral feet of each other and payment will only be made for one unit regardless of the number of utilities exposed. If the distance from the existing ground elevation, located above the existing utility, to a point 18-inches below the exposed utility is between 0 and 6-feet, the department will measure each location as a single unit of work. If the distance from the existing ground elevation, located above the existing utility, to a point 18-inches below the exposed utility is greater than 6-feet and less than twelve feet, the department will pay for the item as two units of work. Exposures in depth greater than 12-feet are not covered under this item.

E Payment

The department will pay for the measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.418	Exposing Existing Utility	Each

Payment is full compensation for sawing all pavement; for removing all pavement; for furnishing all excavation; for disposing of all materials; for locating all utilities within each respective location; for providing documentation and photographs of utility locations to the engineer; for furnishing all surveying associated with exposing existing utilities; for furnishing all maintenance of the location during construction; for furnishing all traffic control, safety barriers, and steel plating required; for furnishing and placing granular backfill and slurry backfill; and for temporary shoring. All finishing items, including but not limited to base aggregate dense, concrete pavement, and HMA pavement located above the subgrade elevation will be paid for using other contract items.

18.26. Conduit HDPE 3-Duct 2-Inch, Item SPV.0090.400; Conduit HDPE Directional Bore 3-Duct 2-Inch, Item SPV.0090.401.**A Description**

This special provision describes furnishing and installing HDPE conduit in accordance to standard spec 671.

B Materials

Supply the material according to standard spec 671.2. Provide conduit according to the following color schemes:

Shared trench or bore with trunk communications system conduit:

Trunk communications system conduit to hold new or future trunk fiber optic cable and other cables = 1 Blue conduit / 1 Orange conduit / 1 Brown conduit

Other shared trench or bore combinations:

Colors as indicated on the plans

C Construction

Install the conduit according to standard spec 671.3.

D Measurement

The department will measure Conduit HDPE 3-Duct 2-Inch and Conduit HDPE Directional Bore 3-Duct 2-Inch according to standard spec 671.4.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.400	Conduit HDPE 3-Duct 2-Inch	LF
SPV.0090.401	Conduit HDPE Directional Bore 3-Duct 2-Inch	LF

Payment is full compensation for furnishing and installation in accordance to subsection 671.5.

18.27. Conduit HDPE 4-Duct 2-Inch, Item SPV.0090.402; Conduit HDPE Directional Bore 4-Duct 2-Inch, Item SPV.0090.403.**A Description**

This special provision describes furnishing and installing HDPE conduit in accordance to standard spec 671.

B Materials

Supply the material according to standard spec 671.2. Provide conduit according to the following color schemes:

Shared trench or bore with trunk communications and local communications system conduit:

Trunk communications system conduit to hold new or future trunk fiber optic cable and other cables = 1 Blue conduit / 1 Orange conduit / 1 Brown conduit, and local communications system conduit to hold local communications cables and electrical wires (less than 120 volts) = 1 Blue conduit

Other shared trench or bore combinations:

Colors as indicated on the plans

C Construction

Install the conduit according to standard spec 671.3.

D Measurement

The department will measure Conduit HDPE 4-Duct 2-Inch and Conduit HDPE Directional Bore 4-Duct 2-Inch according to standard spec 671.4.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.402	Conduit HDPE 4-Duct 2-Inch	LF
SPV.0090.403	Conduit HDPE Directional Bore 4-Duct 2-Inch	LF

Payment is full compensation for furnishing and installation in accordance to standard spec 671.5.

18.28. Conduit HDPE 5-Duct 2-Inch, Item SPV.0090.404; Conduit HDPE Directional Bore 5-Duct 2-Inch, Item SPV.0090.405.

A Description

This special provision describes furnishing and installing HDPE conduit in accordance to standard spec 671.

B Materials

Supply the material according to standard spec 671.2. Provide conduit according to the following color schemes:

Shared trench or bore with trunk communications, local communications and electric system conduit:

- Local communications system conduit to hold local communications cables and electrical wires (less than 120 volts) = 1 Blue conduit
- Electric system conduit to hold electrical wires (120 volts or greater) = 1 Gray conduit
- Trunk communications system conduit to hold new or future trunk fiber optic cable and other cables = 1 Blue conduit / 1 Orange conduit / 1 Brown conduit

Other shared trench or bore combinations:

- Colors as indicated on the plans

C Construction

Install the conduit according to standard spec 671.3.

D Measurement

The department will measure Conduit HDPE 5-Duct 2-Inch and Conduit HDPE Directional Bore 5-Duct 2-Inch according to standard spec 671.4.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.404	Conduit HDPE 5-Duct 2-Inch	LF
SPV.0090.405	Conduit HDPE Directional Bore 5-Duct 2-Inch	LF

Payment is full compensation for furnishing and installation in accordance to subsection 671.5.

19. Miscellaneous – Incidental Construction.

19.1. MGS Guardrail 3.

Supplement standard spec 614.2.3 with the following:

MGS Guardrail 3 installed along USH 41 shall be attached to steel posts and notched plastic blockouts.

19.2. Furnishing and Planting Plant Materials.

The work under this item shall be in accordance to the plans, standard spec 632, as shown on the plans, and as hereinafter provided.

Modify standard spec 632.2.1 to include the following:

All plants shall be grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois, Indiana or Ohio located within Zone 5 of the “Plant Hardiness Zone Map” produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January, 1990, unless otherwise approved by the engineer.

Modify standard spec 632.2.2.8 as follows:

A list of sources for plants shall be furnished in accordance to standard spec 632.2.2.8 before planting begins for fall-planted plants and before March 15 for spring-planted plants. All sources will be subject to verification by the engineer.

Modify standard spec 632.2.3.4 to include the following:

Planting mixture blend shall be reviewed and approved by the engineer or construction representative before use on project. The engineer reserves the right to reject planting mixture that does not conform to the specifications and/or does not come with the appropriate material certificates. The engineer may require the contractor to take samples (for USDA soil texture classification, pH, % organic matter, nutrient content, cation exchange capacity, soluble salts, and the presence of any materials deleterious to plant growth) and provide testing through a qualified testing laboratory approved by the State of Wisconsin to confirm that topsoil meets the requirements outlined in standard spec 625.

Modify standard spec 632.2.4.2 as follows:

For fertilizer used in plant holes, provide a three-year release, water-soluble fertilizer contained in a micropore slow release polyethylene packet. Each packet shall contain two ounces of fertilizer. A single 2-ounce packet is considered one unit. The fertilizer shall conform to the following minimum requirements:

Nitrogen, not less than ----- 16%
Phosphoric Acid, not less than ----- 8%
Potash, not less than -----8%

For trees: The contractor shall use a minimum of two units and shall provide two units per caliper inch of tree trunk diameter. For one-half caliper measurements, the contractor shall round up. For example, a 2 ½" caliper tree should receive six units of fertilizer.

For shrubs: The contractor shall use a minimum of two units and shall provide one unit per 12 inches of plant height or spread.

Modify standard spec 632.2.7 as follows:

Do not use wrapping on plant material.

Modify standard spec 632.2.9 as follows:

Rodent protection shall be rigid plastic mesh made of recycled HDPE with an open mesh matrix ¾" by ¾" with each strand approximately 1/8" x 1/8" x 1/8". Product shall be UV treated and shall have a life expectancy of up to five years. Protection shall be 48 inches high. Contractor shall supply source of rodent protection to the engineer. All sources will be subject to verification and approval by the engineer.

Contractor shall use granular or similar rodent bait for shrub beds as needed and only as approved by engineer.

Modify standard spec 632.2.10 to include the following:

Contractor shall use 18" long soft polymer webbing strap with grommets at end of the two ends to secure wire or twine to tree. Contractor shall supply source of webbing straps to the engineer. All sources will be subject to verification and approval by the engineer.

The contractor shall provide tree stabilization for all trees:

- Planted on slopes greater than 4:1;
- Planted in areas prone to high winds;
- Planted in areas prone to flooding or with seasonally saturated soils;
- At the discretion of the landscape contractor to ensure viable, healthy plantings;
- At the discretion of the engineer.

Modify standard spec 632.3.1 as follows:

The normal spring planting season for all plants shall extend to June 15. The normal fall planting season begins September 15 and shall be completed by November 15 or up until the ground is frozen. Planting of evergreen trees and shrubs, and perennials in the fall shall be completed by October 15. If the overall construction schedule dictates that planting will

occur between June 15 and September 15, the landscape contractor must first obtain approval from the engineer to begin installation outside of the normal planting seasons. If the engineer grants approval of the request, the contractor will also be held fully responsible for any and all additional maintenance associated with planting outside of the normal planting seasons including, but not limited to, supplemental watering above and beyond the typical, specified landscape maintenance and care cycle schedule.

Revise standard spec 632.3.1 to include the following:

Contractor shall take care not to damage or disturb adjacent finished landscape and will be responsible for seeding or sodding to repair any and all damage caused to adjacent seeded and/or sodded areas.

Revise standard spec 632.3.3 to include the following:

Landscape contractor shall stake out locations of all plant holes and obtain approval of staked location from construction representative or engineer before planting.

Revise standard spec 632.3.4 to include the following

Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. The bottom of the rootball shall be in direct contact with the bottom of the hole.

Revise standard spec 632.3.4 as follows:

The minimum horizontal measurement of the plant hole shall be no less than 24 inches greater than the diameter of the ball, container, or root mass for the full depth of the planting hole.

Standard spec 632.3.7 shall include the following:

Remove the burlap and other wrapping materials including, but not limited to, twine, wire baskets, and plastic ribbon, from the entire root ball of B&B plants unless engineer determines that removal of said material will be detrimental to plant stability and/or establishment.

Revise standard spec 632.3.18.1.1 and standard spec 632.3.18.1.2 as follows:

The plant establishment period shall be two years and shall begin and end on the date of substantial landscape completion as determined by the engineer.

Standard spec 632.3.19.1 shall include the following:

The contractor shall remove all staking, bracing wire material, and other plant stabilization material at the end of the required establishment period.

The contractor shall leave in place all rodent protection measures at the end of the required establishment period.

The interval for a care cycle shall be 10-14 days between April 15 and October 31. There will be 13 required care cycles in a growing season.

The contractor shall perform a complete and thorough spring clean-out of all planting beds that contain trees, shrubs, perennials, ornamental grasses and/or bulbs. Spring clean-out shall be performed during the first care cycle of the year (between April 15 and May 1) or as soon as weather and growing season conditions permit. Contractor shall not perform spring clean-out until the ground is no longer saturated from the spring thaw; walking on saturated soil will result in compaction. Spring clean-out shall include removal of past-season herbaceous material that was left standing over winter, cutting back ornamental grasses to within 3-inches of the mulched surface, removing any material damaged over the winter by pruning according to the language outlined in standard spec 632, removal of trash or other debris that has accumulated in planting beds, removal of leaves or other plant debris that has accumulated on the top of the mulched surface, replenishing mulch, weeding, and any and all other clean-out and maintenance operations as directed by the engineer or as required to produce an aesthetically pleasing, healthy environment for plant growth.

The contractor shall perform a complete and thorough fall clean-out of all planting beds that contain trees, shrubs, perennials, ornamental grasses and/or bulbs. Fall clean-out shall be performed during the last care cycle of the year (between October 15 and October 31). Contractor shall not perform fall clean-out if the soil is saturated from rain events and shall wait until the soil moisture levels have gone down before performing the final bed clean-out. Fall clean-out shall include coordination with the individual municipality's Forester or Parks Manager to determine which herbaceous perennial and ornamental grass material to leave standing through the winter and which to cut back to the ground, removing any material damaged during the growing season by pruning according to the language outlined in standard spec 632, removal of trash or other debris that has accumulated in planting beds, removal of leaves or other plant debris that has accumulated on the top of the mulched surface, replenishing mulch, weeding, and any and all other clean-out and maintenance operations as directed by the engineer or as required to produce an aesthetically pleasing, healthy environment for plant growth.

The contractor shall provide supplemental water during the April 15 to October 31 maintenance period as often as necessary to ensure healthy, thriving, and established plant material. The contractor may need to provide supplemental water even if irrigation is installed as part of the project and shall coordinate directly with the municipality to ensure that the plant material is not being overwatered or under-watered. The contractor

will remain solely responsible for plant health and watering maintenance even in the event of irrigation system installation.

Re-mulching of all plant beds is expected to be performed immediately prior to the end of the two-year proving period. Work is incidental to Landscape Planting Surveillance and Care Cycles bid item. Additional payment for re-mulching will not be granted.

19.3. Landscape Planting Surveillance and Care Cycles.

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of \$1,500 per day to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.
635-005 (20070510)

19.4. Fence Safety, Item 616.0700.S.

A Description

This special provision describes furnishing and installing a plastic fence at locations shown on the plans and as hereinafter provided.

B Materials

Furnish notched conventional metal “T” or “U” shaped fence posts.

Furnish fence fabric meeting the following requirements.

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction

Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement

The department will measure Fence Safety by the linear foot along the base of the fence, center-to-center of posts.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
616.0700.S.	Fence Safety	LF

Payment is full compensation for furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition; and for removing and disposing of fence and posts at project completion.

616-030 (20070510)

19.5. Planting Mixture, Item SPV.0035.500.**A Description**

This special provision describes furnishing and installing Planting Mixture and weed barrier fabric at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials

The landscape contractor who is responsible for furnishing and installing plant material shall also be solely responsible for obtaining Planting Mixture components, blending the mixture to the specified proportions, and for furnishing and installing the Planting Mixture and weed barrier fabric.

Weed barrier fabric shall be nonwoven geotextile, polypropylene or polyester fabric, 3 oz./sq.yd minimum, composed of fibers formed into a stable network so that fibers retain their relative position. Fabric shall be inert to biological degradation and resist naturally-encountered chemicals, alkalis and acids.

B.1 Planting Mixture

The Planting Mixture consists of the following blend by volume:

- 2 parts topsoil. Topsoil shall conform to section 625 of the standard specifications.
- 1 part sand. Obtain the engineer's approval for the sand.
- 1 part compost. Compost shall be either well-rotted shredded leaf mulch, free of disease; or well-rotted, unleached, stable or cattle manure containing no more than 25 percent by volume of straw, sawdust, or other bedding materials and free of toxic substances. Either shall be free of stones, sticks, soil, weed seeds, debris, and other material harmful to plant growth.
- 1 part peat moss. Peat moss shall conform to section 632 of the standard specifications.

C Construction

C.1 Coordination

Planting Mixture shall be delivered to project site and installed no more than seven days before the start of planting operations for areas receiving Planting Mixture. It is the sole responsibility of the landscape contractor to fully coordinate and schedule the delivery and installation of the Planting Mixture with the delivery and installation of all landscape plant materials.

C.2 Planting Mixture Preparation and Placement

Contractor shall provide, in writing to the engineer, a list of all materials used in Planting Mixture including manufacturers and quantities and shall ensure that all materials meet the standards set forth in standard spec 625 and standard spec 632 and produce a planting mixture that provides a stable, healthy soil for plant growth.

Ensure proper excavation of planting area for all areas to receive Planting Mixture. Prepare areas by removing any construction materials, stone, or other debris larger than 2" in length or diameter for all areas.

Provide Planting Mixture for all beds as indicated in the plans.

Provide Planting Mixture over entire planting bed area and fine grade to match grades as indicated on plans or to adjacent back of curb or other hardscape surface as indicated on plans and account for settling. Place Planting Mixture in 6-inch to 8-inch lifts, watering in or tamping to reduce settling potential. A minimum of 24" depth shall be provided for all perennial beds as indicated in the plans.

Obtain approval of Planting Mixture depths, locations, and elevations by supervising engineer prior to laying weed barrier fabric or planting.

Lay out Weed Barrier Fabric, covering entire extent of beds. Overlap seams a minimum of four-inches. Secure with manufacturers standard pins or staples, ensuring that there are no gaps at the edges of the bed or at the seams. Obtain approval of weed barrier fabric by engineer prior to planting or placing mulch.

D Measurement

The department will measure Planting Mixture by the cubic yard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.500	Planting Mixture	CY

Payment is full compensation for furnishing and installing all planting mixture materials and weed barrier fabric.

19.6. Topsoil Special, Item SPV.0035.501.**A Description**

This special provision describes excavating and disposing of material taken from within planting bed and tree planting locations in accordance to standard spec 205 and furnishing and installing topsoil at the planting bed and tree planting locations in accordance to the requirements of standard spec 625, the plans, and as hereinafter provided.

B Materials

Excavate materials in accordance to standard spec 205. Furnish topsoil materials in accordance to standard spec 625.

C Construction

Excavate materials as the plans show or the engineer allows from the planting bed areas and tree planting areas in accordance to standard spec 205. Use excavated materials in the work to the extent that it is practical for the bike path bedding or other approved areas. Dispose of surplus or unsuitable material as specified in standard spec 205.3.12. Place Topsoil Special in accordance to standard spec 625 in locations shown on the plans, and to a minimum depth of 24 inches.

D Measurement

The department will measure Topsoil Special by the cubic yard of excavated material acceptably removed in accordance to standard spec 205.4.1, and acceptably replaced with topsoil in accordance to standard spec 625.4.1(3).

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.501	Topsoil Special	CY

Payment is full compensation for excavating and disposing of planting bed and tree planting area materials, furnishing and placing all topsoil materials in planting bed and tree planting areas, including excavating, loading, and hauling.

19.7. Perennials: Bee Balm (Snow Queen), CG, 1 Gal, Item SPV.0060.500; Daylily (Red Hot Returns), CG, 1 Gal, Item SPV.0060.501; Feather Reed Grass (Varigated), CG, 1 Gal, Item SPV.0060.502; Little Bluestem (Jazz), CG, 1 Gal, Item SPV.0060.503; Russian Sage (Little Spire), CG 1 Gal, Item SPV.0060.504; Salvia (Marcus), CG, 1 Gal, Item SPV 0060.505.

A Description

This special provision describes furnishing and installing Perennial Plants at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials

Provide Perennial Plants, as shown on plan, and complying with American Standard for Nursery Stock (ANSI Z60.1-2004) for type, shape, and height.

Plant Materials

All plants shall be grown within the states of Wisconsin, Minnesota, Michigan, or parts of northern Illinois, Indiana or Ohio located within Zone 5 of the “Plant Hardiness Zone Map” produced by the United States Department of Agriculture, Miscellaneous Publication No. 1475, issued January, 1990, unless otherwise approved by the engineer.

A list of sources for plants shall be furnished in accordance to standard spec 632.2.2.8 before planting begins for fall-planted plants and before March 15 for spring-planted plants. All sources will be subject to verification by the engineer.

Provide type B fertilizer.

C Construction

Ensure that Planting Mixture has been placed according to specifications.

Stake out location of plantings for approval by supervising engineer.

Ensure that the bottom of the hole is adequately compacted to guard against settling. Tamp or water in as necessary to create a condition by which plants will not settle in the planting beds. The bottom of the root ball shall be in direct contact with the bottom of the hole.

Install Perennial Plants and mulching as shown on the plan and as per the standard specifications.

D Measurement

The department will measure Perennials (Type) by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.500	Perennials, Bee Balm (Snow Queen), CG, 1 Gal.	Each
SPV.0060.501	Perennials, Daylily (Red Hot Returns), CG, 1 Gal.	Each
SPV.0060.502	Perennials, Feather Reed Grass (Varigated), CG, 1 Gal.	Each
SPV.0060.503	Perennials, Little Bluestem (Jazz), CG, 1 Gal.	Each
SPV.0060.504	Perennials, Russian Sage (Little Spire), CG, 1 Gal.	Each
SPV.0060.505	Perennials, Salvia (Marcus), CG, 1 Gal.	Each

Payment is full compensation for providing, transporting, handling, storing, pruning, placing, and replacing plant materials; for excavating all plant holes, salvaging topsoil, mixing, and backfilling; for providing and applying all required fertilizer, mulch, water, rodent protection, herbicides and anti-desiccant spray; and for disposing of all excess and waste materials. Payment for Topsoil bid item used in planting will be as specified in standard spec 625 and Planting Mixture Special.

19.8. Bulbs, Tulips, Perennial Mix, Multicolor, Bulb, 12+ cm, Item SPV.0060.506.

A Description

This special provision describes furnishing and installing Bulbs at the locations and quantities indicated in the Plant Quantities Tables and in accordance to the requirements this section.

B Materials

Provide a Perennial Tulip Mixture with exceptional perennial qualities and a minimum of 4 different colors/varieties and maximum of 8 different colors/varieties within the single mix. Bloom time shall be mid to late spring. Hardiness zone shall be zone 3-8. Height of mixture shall be 18-24". Mixture shall be equal to "Perennial Tulip Collection" by Dutch Bulbs (www.dutchbulbs.com), Item #20387. Contractor may obtain the bulb collection through a wholesale division also.

Provide Bulbs complying with American Standard for Nursery Stock (ANSI Z60.1-2004) for type, shape, size, and quality.

Bulbs shall be top grade as determined by American Standard for Nursery Stock, current edition and shall be firm and plump, free of cuts, bruises and damage. Soft and/or shriveled bulbs may not be used. Store bulbs, corms, and tubers in a dry place at 60 to 65 degree F until planting.

Provide fertilizer specified by bulb supplier to improve the perennial nature of the bulb mixture.

C Construction

C.1 Planting Timing

If plant installation will be completed after September 15, the contractor can install bulbs as part of the plant installation.

If plant installation will occur before September 15, the contractor will be required to furnish and install bulbs the following growing season according to the schedule outlined in this Section.

Bulb Planting: Bulbs must be planted between September 15 to November 15. Bulb planting may or may not correspond to landscape plant installation timing. Bulbs may not be planted in spring, summer or at any other time period other than the specified period for Bulb Planting.

If the contractor fails to perform the bulb plantings as specified in this section and/or performs the plantings outside of the acceptable planting periods, the department will assess damages in the amount of \$10,000 to cover the cost of performing the work with other forces. The department will assess these damages if the contractor fails to install the bulbs during the first available fall planting season, except when the engineer extends the required time period.

C.2 Preparation

Ensure that Planting Mixture has been placed according to specifications.

The bulbs shall be placed in even coverage throughout the entire planting bed. Beds to receive bulb plantings are indicated in the Plant Data Table. Only plant bulbs in those bed indicated to receive bulbs.

C.3 Planting

The contractor shall take care not to disturb other plantings and/or irrigation during bulb planting operations and will be fully responsible for repairing and/or replacing plants or irrigation damaged during bulb planting.

Bulbs shall be planted on the outsides of the beds so that they don't conflict with tree and shrub plantings in the interior of the beds.

Bulbs shall be planted after weed barrier fabric has been placed in the beds and adequate incisions shall be cut into the weed barrier fabric to allow the bulb to emerge. Weed barrier fabric shall be peeled back slightly to provide an opening for bulbs to emerge through.

Bulb Spacing: Bulbs shall be planted in clusters of two to three individual bulbs, spaced at 12-inches on center throughout the outside portions of the bed.

Bulb Planting: Dig a single hole for each bulb to a depth that is twice the length of the bulb itself; typically about 4 to 8 inches deep per suppliers recommendations. Loosen the soil at the edges and bottom of the hole. Place bulbs securely in the hole with bud nodes (tips) pointing upward. Mix planting soil blend and fertilizer based on manufacturer's written instructions and fill hole with soil+fertilizer blend and finish to match adjacent soil grades. Lightly tamp the backfilled soil and apply mulch over the top of the planted area. Water bulb plantings only if the planting soil blend is extremely dry; do not soak bulbs. Never water directly into the hole after the bulbs are placed and before the planting soil is replaced.

The contractor will not be held responsible for re-planting bulbs after successful completion of the first installation. Failure to successfully complete initial installation will result in the contractor re-planting all of the bulbs at no additional cost to the department or municipality.

D Measurement

The department will measure Bulbs, Tulips, Perennial Mix, Multicolor, Bulb, 12+ cm by each individual unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.506	Bulbs, Tulips, Perennial Mix, Multicolor, Bulb, 12+ cm	Each

Payment is full compensation for providing, transporting, handling, storing, placing, and replacing plant materials; for excavating all plant holes, salvaging topsoil, mixing, and backfilling; for providing and applying all required fertilizer, mulch, water and for disposing of all excess and waste materials. Payment for Topsoil bid item used in planting will be as specified in standard spec 625 and Planting Mixture Special.

19.9. Tall Fescue Seed, Item SPV.0085.500.

A Description

This special provision describes furnishing and installing a Tall Fescue Seed at the locations shown on the plans and as hereinafter provided.

B.1 Materials

Provide Tall Fescue Seed of the following composition with species composed of pure live seed (PLS) with no named or improved varieties unless specifically listed below:

Minimum three of the following species (70% by weight of seed blend):

- Fescue, Cayenne, endophyte enhanced
- Fescue, Crossfire II, endophyte enhanced
- Fescue, Titan LTD, endophyte enhanced
- Fescue, Blackwatch, endophyte enhanced
- Fescue, Grade II, endophyte enhanced

Equal amounts of each of the five following species (10% total by weight of seed blend):

Purple Prairie Clover (*Dalea purpurea*)
Pale Purple Coneflower (*Echinacea pallida*)
Purple Coneflower (*Echinacea purpurea*)
Ox Eye Sunflower (*Heliopsis helianthoides*)
Black Eyed Susan (*Rudbeckia hirta*)

WisDOT Seed No. 40 in accordance to standard spec 630 (20% by weight of seed blend).
Do not include temporary seed mixtures or nurse crops to the No. 40 blend.

All PLS seed shall be from nurseries specializing in growing native species. All seed shall be cold, dry stratified. Minimum percent purity shall be 96 percent.

Contractor shall provide seed blend to engineer for final review and approval and shall include, from seed vendor, certification of seed showing mix composition and a guarantee of germination and the following information: Scientific name of genus and species (subspecies and variety as necessary) and guarantee that seeds are true to species, bulk weight of seed, PLS, supplier lot identification, calendar year in which seed was collected, seed origin (geographical location), seed supplier contact information including company name, address, phone number, contact person's name and e-mail address.

C Construction

Seeding shall occur between April 15 to June 1 or September 1 to October 15.

Topsoil shall be provided under a separate bid item but contractor performing the seeding operations shall verify that sufficient topsoil has been provided both in terms of quality and quantity. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, stones larger than 2" in diameter, and/or any other construction refuse has been deposited within area to be seeded. If insufficient or contaminated topsoil is in place, notify engineer immediately and do not begin any seeding operations until any and all unsatisfactory conditions have been corrected.

Remove any and all undesirable vegetation that has germinated in area to be seeded in a method that will not adversely affect the installation of new seed.

Scarify soils that have become compacted during construction operations. Ensure aerated subgrades to a minimum depth of 8 inches are present before proceeding with seeding operations.

Moisten prepared area before seeding if soil is dry. Water thoroughly and allow surface to dry before seeding. Do not create muddy soil.

No seeding shall occur on frozen ground or at temperatures lower than 32 degrees F.

Seed Tall Fescue Seed Blend using Method A or Method B as outlined in standard spec 630 at a rate of 7 lbs/1000 sq. ft., or as recommended by seed supplier and approved by engineer.

D Measurement

The department will measure Tall Fescue Seed by the pound, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.500	Tall Fescue Seed	LB

Payment is full compensation for providing, handling, and storing all seed; for providing the required culture and inoculating seed as specified and as needed; and for preparing the seed bed, sowing, covering and firming the seed; for furnishing and installing all materials, including but not limited to seed.

19.10. Shovel Cut Edging, Item SPV.0090.503.

A Description

This special provision describes furnishing and installing a Shovel Cut Edging at the locations shown on the plans and as hereinafter provided.

B Materials

Provide Shredded Hardwood Bark Mulch for trench backfill as shown on plan and in conformance with section Shredded Hardwood Bark Mulch Special in terms of material quality. Bark Mulch for trench backfill is considered incidental to the Shovel Cut Edging bid item.

C Construction

Install shovel cut edge at the perimeter of planting beds as indicated in Drawings. Edge shall be manually or machine cut to a minimum depth of 6" and a width of 6-8". Fill shovel cut edge with shredded hardwood bark mulch and finish approximately 2" below adjacent lawn grades. Tamp shredded hardwood bark mulch lightly and add mulch, as necessary, such that the final level of the shredded hardwood bark mulch after compacting shall be level with adjacent lawn grades.

D Measurement

The department will measure Shovel Cut Edging by the linear foot, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.503	Shovel Cut Edging	LF

Payment is full compensation for furnishing and installing all materials (shredded hardwood bark mulch).

19.11. Survey Project 1133-03-77, Item SPV.0105.001; Survey Project 1133-09-71, Item SPV.0105.002; Survey Project 1133-09-74, Item SPV.0105.003; Survey Project 1133-09-76, Item SPV.0105.004.

A Description

Perform work according to standard spec 105.6 and standard spec 650.

Standard spec 105.6 and standard spec 650 are modified to define the requirements for construction staking for this contract.

Replace standard spec 105.6.2 with the following:

The department will not perform any construction staking for this contract. The contractor shall perform all survey required to layout and construct the work under this contract, subject to engineer's approval.

The survey includes establishing horizontal and vertical position for all aspects of construction including but not limited to storm sewer, subgrade, base, curb, gutter, curb and gutter, pipe culverts, structure layout, pavement, barriers (temporary and permanent), electrical installations, supplemental control, slope stakes, ponds, ITS, FTMS, ramp gates, parking lots, utilities, landscaping elements, irrigation system layout, installation of community sensitive design elements, traffic control items, fencing, etc.

The department may choose to perform quality assurance survey during construction. This quality assurance survey does not relieve the contractor of the responsibility for furnishing all survey work required under this contract.

Delete standard spec 650.1.

B (Vacant)

C Construction

Survey required under this item shall be in accordance to all pertinent requirements of standard spec 650 and shall include all other miscellaneous survey required to layout and construct all work under this contract.

D Measurement

The department will measure Survey (Project) as a single lump sum unit, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.001	Survey Project 1133-03-77	LS
SPV.0105.002	Survey Project 1133-09-71	LS
SPV.0105.003	Survey Project 1133-09-74	LS
SPV.0105.004	Survey Project 1133-09-76	LS

Payment is full compensation for performing all survey work required to layout and construct all work under this contract.

19.12. Shredded Hardwood Bark Mulch, Item SPV.0180.500.**A Description**

This special provision describes furnishing and installing Shredded Hardwood Bark Mulch at the locations shown on the plans and in accordance to the requirements of standard spec 632, the plans, and as hereinafter provided.

B Materials

Provide Shredded Hardwood Bark Mulch, as shown on plan and in accordance to standard spec 632.2.6.

Shredded Hardwood Bark Mulch shall be finely shredded and shall be the product of a mechanical chipper, hammermill, or tub grinder. The material shall be fibrous and uniformly dark brown in color, free of large wood chunks, and shall be substantially free of mold, dirt, sawdust, and foreign material. No portion of the material shall be in an advanced state of decomposition. The material shall not contain chipped up manufactured boards or chemically treated wood, including but not limited to wafer board, particle board, and chromated copper arsenate (CCA) or penta-treated wood. The material shall contain no bark of the Black Walnut tree. The material, when air dried, shall all pass a 4-inch screen and no more than 20 percent by mass of the material shall pass a 0.10-inch sieve. Unattached bark or greenleaf composition, either singly or combined, shall not exceed 20 percent each by mass. The maximum length of individual pieces shall not exceed 4 inches.

C Construction

Install Shredded Hardwood Bark Mulch in accordance to standard spec 632.3.9 to a depth of 3 inches over entire area of bed.

Place the Shredded Hardwood Bark Mulch in such a manner as to not damage plants already in place.

D Measurement

The department will measure Shredded Hardwood Bark Mulch by the square yard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.500	Shredded Hardwood Bark Mulch	SY

Payment is full compensation for furnishing and installing all materials.

19.13. Quarried Limestone Slabs, Item SPV.0180.501.**A Description**

This special provision describes furnishing and installing Quarried Limestone Slabs at the locations shown on the plans and as hereinafter provided.

B Materials

Furnish durable quarry stone that is sound, hard, dense, resistant to the action of air and water, and free of seams, cracks, or other structural defects. Stone color shall represent the local color variation of the area including cream, beige, brown, and buff tones.

Use locally quarried stone (within a 200 mile radius of project site) and conforming to the size ranges indicated:

Thickness:	5 to 8 inches
Width:	18 to 40 inches
Length:	24 to 60 inches

Stone shall have a natural quarried finish; no cutting should be required to achieve the size range specified.

C Construction

Prepare the bed for the Quarried Limestone Slabs by excavating, shaping the slopes, and placing and compacting the first lift of base aggregate.

Carefully place by hand or by hand guiding the individual Quarried Limestone Slabs with close, broken joints and firmly bed into the base and against adjoining stones. Slabs shall be laid end to end abutting one another to completely cover the clay liner safety shelf.

Limestone slabs shall have a smooth, consistent surface elevation. Differences in individual slab thickness shall be accounted for using base aggregate.

The maximum gap between slabs shall be 6 inches. Gaps between slabs shall be filled with Select Crushed Material conforming to standard spec 312. Crushed concrete may not be used for this application. Place Select Crushed Material from the bottom to the top, then sweep the surface with a stiff broom and compact. Repeat this process to make the

finished surface elevation free and tight and until a visually smooth surface has been achieved.

After installing Quarried Limestone Slabs, restore the surface of adjacent work and dispose of surplus material.

D Measurement

The department will measure Quarried Limestone Slabs by the square yard, acceptably completed.

E Payment

The department will pay for measured quantities at the contract square yard price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.501	Quarried Limestone Slabs	SY

Payment is full compensation for providing and placing Quarried Limestone Slabs and Select Crush Material, restoring adjacent work, and disposing of surplus material.

**ADDITIONAL SPECIAL PROVISION 1 (ASP 1)
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS**

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 5204(e) – Surface Transportation Workforce Development Training and Education, provides for 100 percent Federal funding if the core program funds are used for training, education, or workforce development purposes, including “pipeline” activities. The core programs includes: Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Highway Bridge Program (HBP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP). These workforce development activities cover surface transportation workers, including OJT/SS programs for women and minorities as authorized in 23 U.S.C. §140(b).

TrANS is an employment program originally established in 1995 in Southeastern Wisconsin. Currently TrANS has expanded to include TrANS program locations to serve contractors in Southeast (Milwaukee and surrounding counties), Southcentral (Dane County and surrounding counties including Rock County), and most Northeastern Wisconsin counties from locations in Keshena, Rhinelander and surrounding far Northern areas. TrANS attempts to meet contractor’s needs in other geographic locations as possible. It is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities and non-minorities as laborers and apprentices in the highway skilled trades. These candidate preparation and contractor coordination services are provided by community based organizations. For a list of the TrANS Coordinators contact the Disadvantaged Business Enterprise Office at (414) 438-4583 in Milwaukee or (608) 266-6961 in Madison. These services are provided to you at no cost.

I. BASIC CONCEPTS

Training reimbursements to employing contractors for new placements, rehires or promotions to apprentice of TrANS Program graduates will be made as follows:

- 1) **On-the-Job Training, Item ASP.1T0G, ASP 1 Graduate.** At the rate of \$5.00 per hour on federal aid projects when TrANS graduates are initially hired, or seasonally rehired, as unskilled laborers or the equivalent.

Eligibility and Duration: To the employing contractor, for up to 2000 hours from the point of initial hire as a TrANS program placement.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 12 (number) TrANS Graduate(s) be utilized on this contract.

- 2) **On-the-Job Training, Item ASP.1T0A, ASP 1 Apprentice.** At the rate of \$5.00 per hour on federal aid projects at the point when an employee who came out of the TrANS Program is subsequently entered into an apprenticeship contract in an underutilized skilled trade (this will include the Skilled Laborer Apprenticeship when that standard is implemented).

Eligibility and Duration: To the employing contractor, for the length of time the TrANS graduate is in apprentice status.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that 7 (number) TrANS Apprentice(s) be utilized on this contract.

- 3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.
- 4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.
- 5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

I. RATIONALE AND SPECIAL NOTE

The \$5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the \$5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

NOTE: *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

II. IMPLEMENTATION

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

IV. TRANS TRAINING

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

Training and upgrading of minorities and women toward journey workers status is a primary objective of this training special provision. Accordingly, the contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority trainees and women trainees); to the extent such persons are available within a reasonable area of recruitment. The contractor will be given an opportunity and will be responsible for demonstrating the steps that they have taken in pursuance thereof, prior to determination as to whether the contractor is in compliance with this training special provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

V. APPRENTICESHIP TRAINING

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical under-representation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

- (1) To increase the overall effectiveness of the State highway agencies' approved training programs.
- (2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b) (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a) (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

ADDITIONAL SPECIAL PROVISION 3 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

1. Description

General

- a. The disadvantaged business enterprise (DBE) requirements of 49 CFR Part 26 apply to this contract. The department's DBE goal is shown on the cover of the bidding proposal. The contractor can meet the specified contract DBE goal by procuring services or materials from a DBE or by subcontracting work to a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.
- b. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:
 - i. Produce accurate and complete quotes.
 - ii. Understand highway plans applicable to their work.
 - iii. Understand specifications and contract requirements applicable to their work.
 - iv. Understand contracting reporting requirements.
- c. The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.
- d. For information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at:

<http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm>

2. Definitions

- a. Interpret these terms, used throughout this additional special provision, as follows:
 - i. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.
 - ii. **DBE:** A disadvantaged business enterprise (DBE) certified as a DBE by the department and included on the department's list of certified DBE's who are determined to be ready, willing and able.
 - iii. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.
 - iv. **Discretionary Goal:** A contractor assigned DBE goal, typically abbreviated as "Disc" on the cover of the Highway Work Proposal, which is enforced as committed.
 - v. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.
 - vi. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.
 - vii. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal, including projects with discretionary goals. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized

comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

4. Department's DBE Evaluation Process

a. Documentation Submittal

Within 10 business days after the notification of contract award, the contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506] and all necessary attachment A forms, as well as, Good Faith Waiver Form [DT1202] and supporting documentation as necessary. If the contractor fails to furnish the required forms within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

i. Bidder Meets DBE Goal

If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage achieved. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

ii. Bidder Does Not Meet DBE Goal

- (1) If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Waiver Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith waiver request.
- (2) The department will review the bidder's good faith waiver request and notify the bidder of one of the following:
 - a. If the department grants a good faith waiver, the bid is eligible for contract execution with respect to DBE commitment.
 - b. If the department rejects the good faith waiver request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith waiver request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

5. Department's Criteria for Good Faith Effort

The Code of Federal Regulations {CFR}, 49 CFR Part 26-Appendix A, is the guiding regulation concerning good faith efforts. However, the federal regulations do not define "good faith" but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own process when making a determination of good faith.

- a. The department will only grant a good faith waiver if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith waiver will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

- b. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.
- c. Prime Contractors should:
 - i. Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT-approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.
 - ii. Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A.* Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, **as required by federal rules**. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.
 - (1) Solicit quotes through all reasonable and available means from certified DBE firms who match 'possible items to subcontract' and send copies to DBESS office, highlighting areas in which you are seeking quotes. Email is acceptable.
 - (2) SBN is the preferred outreach tool. <https://www.bidx.com/wi/main>. Other acceptable means include postal mail, email, fax, phone call.
 - a. Primes must ask DBE firms for a response in their solicitations. See *Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.
 - b. Solicit quotes at least 10 calendar days prior to the letting date {ideally two Fridays before the letting} to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking them if they need help in putting together a quote, or helping to arrange for equipment needs, or solve other problems.
 - (3) Second solicitation should take place within 5 days
 - a. An email solicitation is highly recommended for this second solicitation
 - (4) Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.
 - (5) When potential exists, advise interested DBE firms on how to obtain bonding, line of credit or insurance as may be requested.
 - (6) Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:
 - a. Email to all prospective DBE firms in relevant work areas
 - b. Phone call log to DBE firms who express interest via written response or call.
 - c. Fax/letter confirmation
 - d. Copy of the DBE quotes
 - e. Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.
- d. Evaluate DBE quotes as documentation is critical if the prime does not utilize the DBE firm's quote for any reason.
 - i. Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, **a discussion with the DBE firm** regarding its

- capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE directly regarding their ability to perform the work indicated in the UCP directory as their work area [NAICS code]; only the work area and/or NAICS code listed in the UCP directory will be counted for DBE credit. Documentation of the conversation is required.
- ii. In striving to meet a DBE conscious contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.
 - iii. **Special Circumstance:** Evaluation of DBE quotes with tied bid items. "Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as 'all or none' quote to the prime." When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms' quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.
 - (1) Compare bid items common to both quotes, noting the reasonableness in the price comparison.
 - (2) Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.
- e. After notification of contract award, submit '**Commitment to Subcontract**' form within the time period specified in the contract.
 - i. Provide the following information along with department form DT1202:
 - (1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact. A printed copy of SBN solicitation is acceptable.
 - (2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.
 - (3) Photocopies or electronic copies of all written solicitations to DBE's.
 - (4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.
 - (5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.
 - f. The department's DBE Support Services Office is available by phone, email or in writing to request assistance in meeting the DBE goal:

DBE Support Services Office
6150 Fond du Lac Ave.
Milwaukee, WI 53218
Phone: 414-438-4583 / 608-266-6961
Fax: 414-438-5392
E-mail: DOTDBESupportServices@dot.wi.gov

6. Bidder's Appeal Process

- a. A bidder can appeal the department's decision to deny the bidder's good faith waiver request. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so

requested. Failure to appeal within 7 calendar days after receiving the department's written notice of rejection of a good faith waiver request under constitutes a forfeiture of the bidder's right of appeal. If the bidder does not appeal, the department may declare the bid ineligible for execution.

- b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 7 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

7. Department's Criteria for DBE Participation

Department's DBE List

- a. The department maintains a DBE list on the department's website at <http://app.mylcm.com/wisdot/Reports/WisDotUCPDirectory.aspx>
- b. The DBE office is also available to assist at 414-438-4583 or 608-266-6961.

8. Counting DBE Participation

Assessing DBE Work

- a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:
- b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.
- c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.
- d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.
- e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.
- f. It is the prime contractor's responsibility to determine the DBE's ability to perform the work with the use of the UCP directory.

9. Commercially Useful Function

- a. The department counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.
- b. A DBE is performing a commercially useful function if the following conditions are met:
- c. For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.
- d. For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.

10. Trucking

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at

<http://www.dot.wisconsin.gov/business/engrserv/docs/dbe-trucking-notice.pdf>

11. Manufacturers and Suppliers

The department counts material and supplies a DBE provides under the contract. The department will give full credit toward the DBE goal if the DBE is a manufacturer of those materials or supplies. The department will give 60 percent credit toward the DBE goal if the DBE is merely a supplier of those materials or supplies. It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

12. DBE Prime

If the prime contractor is a DBE, the department will only count the work the contractor performs with its own forces, the work DBE subcontractors perform, and the work DBE suppliers or manufacturers perform.

13. Joint Venture

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces.

14. Mentor Protégé

- a. If a DBE performs as a participant in a mentor protégé agreement, the department will credit the portion of the work performed by the DBE protégé firm
- b. On every other project that the mentor protégé team identifies itself on.
- c. For no more than one half of the total contracted DBE goal on any WisDOT project.

15. DBE Replacement

In the event a Prime Contractor needs to replace a DBE firm originally listed on the approved DBE Commitment Form DT1506, the Prime Contractor must comply with the department's DBE Replacement Policy located on the DBE page on the following web site:

<http://www.dot.wisconsin.gov/business/engrserv/docs/policyreplacingdbe.pdf>

16. Changes to the approved DBE Commitment Form DT1506

If there are any changes to the approved Commitment to Subcontract to DBE Form DT1506, the prime contractor must submit a revised DBE Commitment Form DT1506 and relevant attachment A(s) to the DBE Programs Office within 5 business days.

17. Contract Modifications

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors, that were committed to equal work items, in the original contract.

18. Payment

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

APPENDIX A
Sample Contractor Solicitation Letter Page 1
This sample is provided as a guide not a requirement

GFW SAMPLE MEMORANDUM

TO: DBE FIRMS
FROM: POTENTIAL PRIME CONTRACTOR OR MAJOR SUBCONTRACTOR
SUBJECT: REQUEST FOR DBE QUOTES
LET DATE & TIME
DATE: MONTH DAY YEAR
CC: DBE OFFICE ENGINEER

Our company is considering bidding on the projects indicated on the next page, as a prime and/or a subcontractor for the Wisconsin Department of Transportation Month- date -year Letting. Page 2 lists the projects and work items that we may subcontract for this letting. We are interested in obtaining subcontractor quotes for these projects and work categories. Also note that we are willing to accept quotes in areas we may be planning to perform ourselves as required by federal rules.

Please review page 2, respond whether you plan to quote, highlight the projects and work items you are interested in performing and return it via fax or email within 3 days. Plans, specifications and addenda are available through WisDOT at the DBE Support Services office or at the Highway Construction Contract Information (HCCI) site at <http://roadwaystandards.dot.wi.gov/hcci/>

Your quote should include all of the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Page 2, with the indicated projects and items you plan to quote, should be used as a cover sheet for your quote.

Please make every effort to have your quotes into our office by time deadline the prior to the letting date. **Make sure the correct letting date, project ID and proposal number, unit price and extension are included in your quote.** We prefer quotes be sent via SBN but prime's alternative's are acceptable. Our office hours are include hours and days. Please call our office as soon as possible prior to the letting if you need information/clarification to prepare your quote at contact number.

If you wish to discuss or evaluate your quote in more detail, contact us after the contract is awarded. Status of the contract can be checked at WisDOT's HCCI site at <http://roadwaystandards.dot.wi.gov/hcci/>

All questions should be directed to:

Project Manager, John Doe,
Phone: (000) 123-4567
Email: Joe@joetheplumber.com
Fax: (000) 123- 4657

Sample Contractor Solicitation Letter Page 2

This sample is provided as a guide not a requirement

REQUEST FOR QUOTATION

Prime's Name: _____

Letting Date: _____

Project ID: _____

Please check all that apply

- ☐ Yes, we will be quoting on the projects and items listed below
- ☐ No, we are not interested in quoting on the letting or its items referenced below
- ☐ Please take our name off your monthly DBE contact list
- ☐ We have questions about quoting this letting. Please have some one contact me at this number

Prime Contractor 's Contact Person

Phone: _____
Fax: _____
Email: _____

DBE Contractor Contact Person

Phone _____
Fax _____
Email _____

Please circle the jobs and items you will be quoting below

Proposal No.	1	2	3	4	5	6	7
County							

WORK DESCRIPTION:

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternative's are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

APPENDIX B BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT

This list is not a set of requirements; it is a list of potential strategies

Primes

- Prime contractor open houses inviting DBE firms to see the bid “war room” or providing technical assistance
- Participate in speed networking and mosaic exercises as arranged by DBE office
- Host information sessions not directly associated with a bid letting;
- Participate in a formal mentor protégé or joint venture with a DBE firm
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings
- Facilitate a small group DBE ‘training session’ Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

DBE

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the ‘apparent low bidder’ list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs
- Participate on advisory and mega-project committees
- Sign up to receive the DBE Contracting Update
- Consider membership in relevant industry or contractor organizations
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

APPENDIX C

Types of Efforts considered in determining GFE

This list represents concepts being assessed; analysis requires additional steps

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities;
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively;
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal;
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

APPENDIX D
Good Faith Effort Evaluation Guidance
Excerpt from Appendix A of 49 CFR Part 26

APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS

- I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.
- IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
 - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
 - B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
 - C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- D.
 - (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
 - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
 - E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.
 - F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
 - G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
 - H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
- V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

Appendix E

Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription. Within the Small Business Network, **Prime Contractors** can:

1. Easily select proposals, work types and items:
 - a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.
2. Create sub-quotes for the subcontracting community:
 - a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
 - b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
 - c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request
 - d. Add attachments to sub-quotes
3. View sub-quote requests & responses:
 - a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
 - b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing
4. View Record of Subcontractor Outreach Effort:
 - a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a “Good Faith” effort in reaching out to the DBE community.
 - b. Easily locate pre-qualified and certified small and disadvantaged businesses
 - c. Advertise to small and disadvantaged businesses more efficiently and cost effectively
 - d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency)

The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
 - a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.
2. Select items when responding to sub-quote requests from primes:
 - a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
 - b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes
 - c. Add attachments to a sub-quote
3. Create and send unsolicited sub-quotes to specific contractors:
 - a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
4. Easily select and price items for unsolicited sub-quotes:
 - a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on an per-item basis as well.
 - b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder
 - c. Add attachments to a sub-quote
 - d. Add unsolicited work items to sub-quotes that you are responding to
5. Easy Access to Valuable Information
 - a. Receive a confirmation that your sub-quote was opened by a prime
 - b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
 - c. View important notices and publications from DOT targeted to small and disadvantaged businesses
6. Accessing Small Business Network for WisDOT contracting opportunities
 - a. If you are a contractor not yet subscribing to the Bid Express service, go to **www.bidx.com** and select “Order Bid Express.” The Small Business Network is a part of the Bid Express Basic Service.
 - b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588

ADDITIONAL SPECIAL PROVISION 4

Payment to First-Tier Subcontractors

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting the reasons for withholding payment.

The prime contractor may also withhold retainage from payments due subcontractors. Reduce the total amount retained from all first-tier subcontractors to no more than the department retains within 10 calendar days of the department releasing retainage.

Payment to Lower-Tier Subcontractors

Ensure that subcontracting agreements at all tiers provide prompt payment and release of retainage rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

ADDITIONAL SPECIAL PROVISIONS 5**Fuel Cost Adjustment****A Description**

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is \$2.90 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

- (1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.
- (2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.
- (3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.
- (4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) \times Q \times BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

ADDITIONAL SPECIAL PROVISION 6

ASP 6 - Modifications to the standard specifications

Make the following revisions to the 2013 edition of the standard specifications:

106.1 General

Replace the entire text with the following effective with the June 2013 letting.

106.1.1 Materials

- (1) Provide materials conforming to the contract. Use new products and materials for items permanently incorporated into the work unless the contract specifies or allows otherwise. Use materials the contract specifies unless the engineer authorizes substitutes under 108.8. Monitor construction operations to identify potential nonconforming materials and prevent their incorporation into the work.
- (2) All materials are subject to the engineer's approval before incorporation into the work. The engineer may inspect or test all materials at any time during their preparation, storage, and use. Notify the engineer of the proposed source of materials before delivering those materials to the project site. If the engineer requests, provide samples of material and access to facilities that the engineer needs to assess the acceptability of all materials. The department will, on request, share with the contractor available information on a source or material. The department will maintain a web-based list of approved aggregate sources. Aggregate producers must provide test results as required in the department policy for aggregate source approval to have their source approved and to keep that approval over time.
- (3) For fabricated components, the materials and the fabricator are subject to the department's approval before delivery of those components to the project site. The engineer may require the contractor to obtain components from another department-approved source if the department determines a fabricator's product does not conform to the contract.
- (4) Do not incorporate materials into the work until the engineer approves those materials. However, the contractor may request permission to incorporate materials not already approved. The engineer will grant this permission only if the contractor can provide convincing evidence that the engineer will subsequently find those materials conforming. Incorporation of materials before approval is at the contractor's risk and permission to do so does not imply that the department will subsequently approve those materials.
- (5) Except as required under the contract, ensure that products incorporated into the work, either temporarily or permanently, do not display advertising or messages not directly related to the manufacturer, properties, or function of those products; or advertising or messages in violation of state statutes

106.1.2 Designated Materials Person

- (1) Designate one person, either a member of the contractor's own organization or acting as an agent for the contractor responsible for the following:
 - Communicating contract sampling and testing requirements to subcontractors at all tiers.
 - Ensuring that sampling and testing is performed at or more frequent than the contract specified minimum frequencies.
 - Reporting out-of-specification test results to the department as soon as the information is available.
 - Ensuring that documentation is submitted or posted within the time the contract specifies.
 - Providing certified reports of test or analysis and manufacturers' certificates of compliance from subcontractors at all tiers and maintaining certification records as specified in 106.3.3.2.
- (2) Ensure that the contractor-designated materials person submits materials information required under the contract to a person the engineer designates. Ensure that the contractor-designated materials person communicates with their department counterpart weekly.

106.3.4.3.1 General

Replace paragraph two with the following effective with the November 2012 letting:

- (2) Required sampling and testing methodologies and documentation are specified in CMM chapter 8.
- (3) If disputed, approval of materials and components, as well as acceptance of the work incorporating those materials or components, is subject to review under the QMP dispute resolution process.

107.17.3 Railroad Insurance Requirements

Replace the entire text with the following effective with the August 2012 letting:

- (1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the department has accepted the work as specified in 105.11.2.4.
- (2) Provide railroad protective liability insurance coverage written as specified in 23 CFR part 646 subpart A. Provide a separate policy for each railroad owning tracks on the project. Ensure that the railroad protective liability insurance policies provide the following minimum limits of coverage:
 1. Coverage A, bodily injury liability and property damage liability; \$2 million per occurrence.
 2. Coverage B, physical damage to property liability; \$2 million per occurrence.
 3. An annual aggregate amount of \$6 million that shall apply separately to each policy renewal or extension.
- (3) Obtain coverage from insurance companies licensed to do business in Wisconsin that have an A.M. Best rating of A- or better. The cost of providing the required insurance coverage and limits is incidental to the contract. The department will make no additional or special payment for providing insurance.
- (4) Submit the following to each railroad owning tracks on the project as evidence of that railroad's respective coverage:
 1. A certificate of insurance for the types and limits of insurance specified in 107.26.
 2. The railroad protective liability insurance policy or other acceptable documentation to the railroad company.
- (5) Submit the following to the region as evidence of the required coverage:
 1. A copy of the letter to the railroad company transmitting the submittal documents specified in 107.17.3(4).
 2. A certificate of insurance for the required railroad protective liability coverages.
- (6) Do not begin work on the right of way or premises of the railroad company until the region receives the submittals specified in 107.17.3(5) and notification from the railroad company that the contractor has provided sufficient insurance information to begin work.
- (7) Notify the railroad and the region immediately upon cancellation or initiating cancellation, whichever is earlier, or any material change in coverage. Cease operations within 50 feet of the railroad right of way immediately if insurance is cancelled or reduced. Do not resume operations until the required coverage is in force.

460.2.8.3.1.4 Department Verification Testing Requirements

Replace paragraph four with the following effective with the December 2012 letting:

- (4) The department will randomly test each design mixture at the following minimum frequency:
- FOR TONNAGES TOTALING:
- Less than 501 tons no tests required
- From 501 to 5,000 tons..... one test
- More than 5,000 tons..... add one test for each additional 5,000-ton increment

501.2.1 Portland Cement

Replace paragraph one with the following effective with the March 2013 letting:

- (1) Use cement conforming to ASTM specifications as follows:
- Type I portland cement; ASTM C150.
 - Type II portland cement; ASTM C150.
 - Type III portland cement; ASTM C150, for high early strength.
 - Type IP portland-pozzolan cement; ASTM C595, except maximum loss on ignition is 2.0 percent.
 - Type IS portland blast-furnace slag cement; ASTM C595.
 - Type IL portland-limestone cement; ASTM C595, except maximum nominal limestone content is 10 percent with no individual test result exceeding 12.0 percent.

501.2.5.5 Sampling and Testing

Replace the entire text with the following effective with the January 2013 letting:

- (1) Sample and test aggregates for concrete according to the following:
- | | |
|---|---------------------------|
| Sampling aggregates..... | AASHTO T2 |
| Lightweight pieces in aggregate | AASHTO T113 |
| Material finer than No. 200 sieve | AASHTO T11 |
| Unit weight of aggregate | AASHTO T19 |
| Organic impurities in sands | AASHTO T21 |
| Sieve analysis of aggregates..... | AASHTO T27 |
| Effect of organic impurities in fine aggregate | AASHTO T71 |
| Los Angeles abrasion of coarse aggregate | AASHTO T96 |
| Freeze-thaw soundness of coarse aggregate..... | AASHTO T103 |
| Sodium sulfate soundness of aggregates..... | AASHTO T104 |
| Specific gravity and absorption of fine aggregate | AASHTO T84 |
| Specific gravity and absorption of coarse aggregate | AASHTO T85 |
| Flat & elongated pieces based on a 3:1 ratio..... | ASTM D4791 ^[1] |
| Sampling fresh concrete | AASHTO R60 |
| Making and curing concrete compressive strength test specimens..... | AASHTO T23 |
| Compressive strength of molded concrete cylinders | AASHTO T22 |

^[1] As modified in CMM 8-60.

501.2.6 Fly Ash

Replace paragraph three with the following effective with the March 2013 letting:

- (3) Test fly ash using a recognized laboratory, as defined in 501.2.2(1), starting at least 30 days before its proposed use, and continuing at ASTM-required frequencies as the work progresses. The manufacturer shall test the chemical and physical properties listed in tables 1 and 2 of ASTM C618 at the frequencies and by the test methods prescribed in ASTM C311.

501.3.1.1.1 Air-Entrained Concrete

Replace paragraph one with the following effective with the March 2013 letting:

- (1) Prepare air-entrained concrete with type I, IL, II, IS, or IP cement and sufficient air-entraining admixture to produce concrete with the air content specified in 501.3.2.4.
-

501.3.1.3.2 Special Restrictions

Replace paragraph one with the following effective with the June 2013 letting.

- (1) If using coarse aggregate composed primarily of igneous or metamorphic materials, provide concrete for concrete pavement, approach slabs, barrier, surface drains, driveways, alleys, sidewalks, curb, gutter, and curb & gutter as follows:

Grade A, A-FA, A-S, and A-T : If using type II portland cement, or if using Type IL blended cement where the base portland cement meets Type II chemical requirements.

Grade A-IS and A-IP : If using type I/II blended portland cement.

Grade A-S2 : If placing by a slip-formed process and using type II portland cement.

Grade C, C-FA, C-S, C-IS, and C-IP : If using types I or III portland cement.

503.2.2 Concrete

Replace paragraph five with the following effective with the March 2013 letting:

- (5) Furnish prestressed concrete members cast from air-entrained concrete, except I-type girders may use non-air-entrained concrete. Use type I, IL, IS, , IP, II, or III cement. The contractor may replace up to 30 percent of type I, IL, II, or III cement with an equal weight of fly ash, slag, or a combination of fly ash and slag, except for prestressed box girders and slabs, the contractor shall replace 20-30 percent of the cement with fly ash, slag, or a combination of fly ash and slag. Ensure that fly ash conforms to 501.2.6 and slag conforms to 501.2.7. Use only one source and replacement rate for work under a single bid item. Use a department-approved air-entraining admixture conforming to 501.2.2 for air-entrained concrete. Use only size No. 1 coarse aggregate conforming to 501.2.5.4.
-

506.3.22 Shop Inspection

Replace paragraph one with the following effective with the July 2010 letting:

- (1) The engineer or an independent inspection agency under department contract may inspect all structural steel and miscellaneous metals furnished. The department will provide the contractor with monthly consultant inspection invoices and identify any quality deficiencies at the fabrication facility.
-

506.5 Payment

Add paragraph nine as follows effective with the June 2010 letting:

- (9) The department will limit costs for inspections conducted under 506.3.2 to \$0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.
-

507.2.2.1 General

Replace paragraph four with the following effective with the December 2012 letting:

- (4) Ensure that there are no unsound knots or knot holes. Also ensure that there are no tight knots of a diameter exceeding one-quarter of the greater dimension at the point where they occur. Measure a knot by taking its diameter at right angles to the length of the timber. Ensure that the sum of sizes of all

knots in any one-foot length does not exceed 2 times the size of the largest allowed single knot. The engineer will treat cluster knots as if they were a single knot. A cluster knot is 2 or more knots grouped together, with the fibers of the wood deflected around the entire unit.

512.3.1 Driving and Cutting Off

Replace the entire text with the following effective with the December 2012 letting:

512.3.1.1 General

- (1) Coordinate driving operations to prevent damage or displacement of concrete in substructure units or damage to adjacent facilities due to vibrations.
- (2) Drive sheeting with a variation of 1/4 inch or less per foot from the vertical or from the batter the plans show. Ensure that the sheetpiles are within 6 inches of the plan position after driving. Do not damage sheetpiles attempting to correct for misalignment.
- (3) Remove and replace, or otherwise correct, sheetpiles the engineer deems unacceptable under 105.3. Submit details of planned corrections to the engineer for review and approval before initiating any corrective actions.
- (4) Drive sheetpiles to or beyond the required tip elevation the plans show.

512.3.1.2 Driving System

- (1) Furnish a sheetpile driving system capable of driving the sheetpiles to the required minimum tip elevation the plans show.
- (2) The engineer may order the contractor to remove a pile driving system component from service if it causes insufficient energy transfer or damages the sheetpiles. Do not return a component to service until the engineer determines that it has been satisfactorily repaired or adjusted.
- (3) Drive sheetpiles with diesel, air, steam, gravity, hydraulic, or vibratory hammers.

512.3.1.3 Cut-Offs

- (1) Cut off sheetpiles at the elevations the plans show or as the engineer directs. Pile cut-offs become the property of the contractor. Dispose of cut-offs not incorporated into the work.
-

518.2.1 General

Replace paragraph one with the following effective with the March 2013 letting:

- (1) Furnish portland cement and water as specified in 501.2. Unless the engineer allows an alternate, use either type I, IL, IS, or IP cement.
-

526.3.3 Temporary Structures

Replace paragraphs two through four with the following effective with the January 2013 letting:

- (2) Inspect temporary structures conforming to the National Bridge Inspection Standards (NBIS) and the department's structure inspection manual before opening to traffic. Perform additional inspections, as the department's structure inspection manual requires, based on structure type and time in service. Submit inspection reports on department form DT2007 to the engineer and electronic copies to the department's bureau of structures maintenance section. Ensure that a department-certified active team leader, listed online in the department's highway structures information system (HSIS), performs the inspections.
- (3) Maintain temporary structures and approaches in place until no longer needed. Unless the engineer directs otherwise, completely remove and dispose of as specified in 203.3.4. Contractor-furnished materials remain the contractor's property upon removal.

614.2.5 Wood Posts and Offset Blocks

Retitle and replace the entire text with the following effective with the July 2012 letting:

614.2.5 Posts and Offset Blocks**614.2.5.1 Wood Posts and Offset Blocks**

- (1) Furnish sawed posts and offset blocks of one of the following species:

Douglas fir	Southern pine	Ponderosa pine	Jack pine	White pine
Red pine	Western hemlock	Western larch	Hem-fir	Oak
- (2) Ensure that posts are the size the plans show and conform to the nominal and minimum dimensions tabulated in 507.2.2.3. The contractor does not have to surface the posts. Provide posts of the net length the plans show after setting and cut off.
- (3) Use stress graded posts rated at 1200 psi f_b or higher. Determine the stress grade rating for douglas fir, western larch, and southern pine as specified in 507.2.2.4.
- (4) For hem-fir, hemlock, red pine, white pine, jack pine, ponderosa pine, and oak conform to the following:

TABLE 614-1 PROPERTIES FOR WOOD POSTS AND BLOCKS

SPECIES			WESTERN HEMLOCK, HEM-FIR, RED PINE, WHITE PINE, JACK PINE, PONDEROSA PINE		OAK	
MAXIMUM SLOPE OF GRAIN			1 in 15		1 in 12	
NOMINAL WIDTH OF FACE			6"	8"	6"	8"
SHAKES, CHECKS, AND SPLITS	GREEN		1"	1 3/8"	2 3/8"	3 1/8"
	SEASONED		1 1/2"	2"	2 5/8"	3 1/2"
MAXIMUM WANE			1"	1 3/8"	1 1/8"	1 5/8"
MAXIMUM ALLOWABLE KNOTS	NARROW FACE	MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"	2 1/8"	2 3/8"
		END ^[1]	2 3/4"	3 1/4"	4 1/4"	4 3/4"
		SUM IN MIDDLE 1/2 OF LENGTH ^[2]	11"	13"	17"	19
	WIDE FACE	EDGE KNOT N MIDDLE 1/3 OF LENGTH	1 3/8"	1 5/8"		
		EDGE KNOT AT END ^[1]	2 3/4" 7	3 1/4"		
		CENTERLINE	1 3/8"	1 7/8"	2 1/4"	2 7/8"
		SUM IN MIDDLE 1/2 OF LENGTH	5 1/2"	7 1/2"	9"	11 1/2"

^[1] But do not exceed the maximum allowable knot on the centerline of the wide face of the same piece.

^[2] But do not exceed 4 times the maximum allowable knot on the centerline of the wide face of the same piece.

- (5) Pressure treat posts and offset blocks as specified in 507.2.2.6. Use one of the oil-soluble preservatives or chromated copper arsenate conforming to 507.2.3. Use the same material for offset blocks and posts and treat material used in each continuous installation with the same type of preservative.

614.2.5.2 Steel Posts

- (1) Furnish steel posts conforming to AASHTO M270 Grade 36 and galvanized according to AASTHO M111.

614.2.5.3 Plastic Offset Blocks

- (1) Furnish plastic offset blocks from the department's approved products list.

614.3.1 General

Replace the entire text with the following effective with the July 2012 letting:

- (1) Paint the ends of cut-off galvanized posts, rail, bolts, cut or drilled surfaces of galvanized components, and areas of damaged zinc coating with 2 coats of zinc dust/zinc oxide paint. Clean the damaged and adjacent areas thoroughly before applying paint.
- (2) Apply 2 coats of wood preservative to cut surfaces of wood components. Use the same preservative originally used to treat that component or use a 2-percent solution of copper naphthenate conforming to AWWA Standard P8 or P36.

614.3.2.1 Installing Posts

Replace paragraph four with the following effective with the July 2012 letting:

- (4) Cut post tops to the finished elevation the plans show.

628.2.13 Rock Bags

Replace paragraph one with the following effective with the November 2012 letting:

- (1) Furnish rock bags made of a porous, ultraviolet resistant, high-density polyethylene or geotextile fabric that will retain 70% of its original strength after 500 hours of exposure according to ASTM D4355 and a minimum in-place filled size of 18-inches long by 12-inches wide by 6-inches high. Ensure that the fabric conforms to the following:

TEST REQUIREMENT	METHOD	VALUE
Minimum Tensile	ASTM D4632	
Machine direction		70 lb minimum
Cross direction		40 lb minimum
Elongation	ASTM D4632	
Machine direction		20% minimum
Cross direction		10 % min
Puncture	ASTM 4833	65 lbs minimum
Minimum Apparent Opening		0.0234 inches (No. 30 sieve)
Maximum Apparent Opening		0.0787 inches (No. 10 sieve)

639.2.1 General

Replace paragraph two with the following effective with the March 2013 letting:

- (2) For grout use fine aggregate conforming to 501.2.5.3 and type I, IL, IS, or IP cement.

649.3.1 General

Replace paragraphs three and four with the following effective with the March 2013 letting:

- (3) For pavements open to all traffic, apply centerline and no-passing barrier line markings as follows:
- On intermediate pavement layers, including milled surfaces, on the same day the pavement is placed or milled.
 - On the upper layer of pavement, on the same day the pavement is placed unless the contractor applies permanent marking on the same day the pavement is placed.

If weather conditions preclude same-day application, apply as soon as weather allows. Do not resume next-day construction operations until these markings are completed unless the engineer allows otherwise.

- (4) If required to apply no passing zone temporary pavement marking, reference the beginning and end of all existing no-passing barrier lines. Apply temporary no-passing barrier lines at those existing locations. If the contract contains the Locating No-Passing Zones bid item, relocate permanent no-passing zones as specified in section 648.
-

701.4.2 Verification Testing

Replace paragraph two with the following effective with the December 2012 letting:

- (2) The department will sample randomly at locations independent of the contractor's QC tests and use separate equipment and laboratories. The department will conduct a minimum of one verification test for each 5 contractor QC tests unless specific QMP provisions specify otherwise.
-

715.2.3.1 Pavements

Replace paragraph two with the following effective with the March 2013 letting:

- (2) Provide a minimum cement content of 565 pounds per cubic yard, except if using type I, IL, or III cement in a mix where the geologic composition of the coarse aggregate is primarily igneous or metamorphic materials, provide a minimum cement content of 660 pounds per cubic yard.
-

715.3.1.3 Department Verification Testing

Replace paragraph one with the following effective with the December 2012 letting:

- (1) The department will perform verification testing as specified in 701.4.2 except as follows:
- Air content, slump, and temperature: a minimum of 1 verification test per lot.
 - Compressive strength: a minimum of 1 verification test per lot.
-

Errata

Make the following corrections to the 2013 edition of the standard specifications:

102.12 Public Opening of Proposals

Correct 102.12(1) errata by changing htm to shtm in the web link.

- (1) The department will publicly open proposals at the time and place indicated in the notice to contractors. The department will post the total bid for each proposal on the Bid Express web site beginning at 9:30 AM except as specified in 102.8. If a proposal has no total bid shown, the department will not post the bid. After verification for accuracy under 103.1, the department will post bid totals on the department's HCCI web site.

<http://roadwaystandards.dot.wi.gov/hcci/bid-letting/index.shtm>

107.22 Contractor's Responsibility for Utility Facilities, Property, and Services

Correct errata by eliminating references to the department. Costs are determined by statute.

- (3) If the contractor damages or interrupts service, the contractor shall notify the utility promptly. Coordinate and cooperate with the utility in the repair of the facility. Determine who is responsible for repair costs according to Wisconsin statutes 66.0831 and 182.0175(2).

204.3.2.2 Removing Items

Correct errata by changing the reference from 490.3.2 to 490.3.

- (5) Under the Removing Asphaltic Surface Milling bid item, remove and dispose of existing asphaltic pavement or surfacing by milling at the location and to the depth the plans show. Mill the asphaltic pavement or surfacing as specified for milling salvaged asphaltic pavement in 490.3.

501.2.9 Concrete Curing Materials

Correct errata by changing AASHTO M171 to ASTM C171.

- (4) Furnish polyethylene-coated burlap conforming to ASTM C171 for white burlap-polyethylene sheets.

506.2.6.5.2 Pad Construction

Correct errata by changing ASTM A570 to ASTM A1011.

- (4) For the internal steel plates use rolled mild steel conforming to ASTM A36, or ASTM A1011 grade

512.3.3 Painting

Correct errata by changing 511.3.5 to 550.3.11.3.

- (1) Paint permanent steel sheet piling as specified for painting steel piling in 550.3.11.3.

513.2.2.8 Toggle Bolts

Correct errata by changing ASTM A570 to ASTM A1011.

- (1) Use toggle bolts made of steel, conforming to the plans. Make the assembly from the material specified below:
- | | |
|---------------------------|--|
| Toggle bolt and pin | Cold finished steel heat-treated Brinell 311-363 ASTM A354. |
| Toggle washer | Hot rolled steel ASTM A1011. Manufacturer's standard washer. |
| Spacer nut | Grade 1213, ASTM A108. Cold finished steel heat-treated ASTM A325. |

614.2.1 General

Correct errata by changing the discontinued AASHTO M298 to ASTM B695.

- (4) Furnish steel nuts conforming to ASTM A563, washers conforming to ASTM F436, grade 1, and bolts conforming to ASTM A307. Ensure that the nuts, washers, and bolts are either hot-dip coated according to AASHTO M232 class C or mechanically coated according to ASTM B695 class 50.

643.3.1 General

Correct errata by eliminating the word "continuously".

- (6) Review all traffic signs and control devices furnished and erected for location, position, visibility, adequacy, and manner of use under specific job conditions immediately after each setup and at least once every 24 hours and more frequently as necessary, to ensure all the signs and control devices are in compliance with this section. Review the signs and devices from the same direction that approaching traffic views them.

660.2.1 General

Correct errata by changing section 511 to 550.

- (1) Furnish materials conforming to the following:
- | | |
|------------------------|-------------|
| Concrete | section 501 |
| Concrete bridges | section 502 |
| Luminaires | section 659 |

Steel piling	section 550
Steel reinforcement.....	section 505

660.3.2.3 Pile Type Foundations

Correct errata by changing section 511 to 550.

- (1) Drive piles as specified in for steel piling in section 550.

701.3 Contractor Testing

Correct errata by updating AASHTO T141 to AASHTO R60 and changing AASHTO T309 to ASTM C1064.

- (1) Perform contract required QC tests for samples randomly located according to CMM 8-30. Also perform other tests as necessary to control production and construction processes, and additional testing enumerated in the contractor's quality control plan or that the engineer directs. Use test methods as follows:

TABLE 701-2 TESTING STANDARDS

TEST	TEST STANDARD
Washed P 200 analysis	AASHTO T11 ^[1]
Sieve analysis of fine and coarse aggregate	AASHTO T27 ^[1]
Aggregate moisture	AASHTO T255 ^[1]
Sampling freshly mixed concrete	AASHTO R60
Air content of fresh concrete	AASHTO T152 ^[2]
Concrete slump	AASHTO T119 ^[2]
Concrete temperature	ASTM C1064
Concrete compressive strength	AASHTO T22
Making and curing concrete cylinders	AASHTO T23
Standard moist curing for concrete cylinders	AASHTO M201

^[1] As modified in CMM 8-60.

^[2] As modified in CMM 8-70.

ADDITIONAL SPECIAL PROVISION 7

- A. Reporting 1st Tier and DBE Payments During Construction
1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
 2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
 3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
 4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
 5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
 6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.
- B. Costs for conforming to this special provision are incidental to the contract.

ADDITIONAL SPECIAL PROVISION 9
Electronic Certified Payroll Submittal

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: <http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm>

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: <http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/crc-basic-info.pdf>

REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. Instructions for Certification – First Tier Participants:

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. Instructions for Certification - Lower Tier Participants:

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS
PREFERENCE FOR APPALACHIAN DEVELOPMENT
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.
2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

Goals for Minority Participation for Each Trade:

<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

Goals for female participation for each trade: 6.9%

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As referred to in this section, the Director means:

Director
Office of Federal Contract Compliance Programs
Ruess Federal Plaza
310 W. Wisconsin Ave., Suite 1115
Milwaukee, WI 53202

The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

APRIL 2013

ADDITIONAL FEDERAL-AID PROVISIONS

NOTICE TO ALL BIDDERS

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

APRIL 2013

BUY AMERICA PROVISION

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or \$2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.4 to ensure compliance with this "Buy America" provision.

<http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.4>

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

<http://roadwaystandards.dot.wi.gov/standards/forms/hidden/ws4567.doc>

**WISCONSIN DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES**

SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS

- I. Wage Rates, Hours of labor and payment of Wages
- II. Payroll Requirements
- III. Postings at the Site of the Work
- IV. Affidavits
- V. Wage Rate Redistribution
- VI. Additional Classifications

I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contracts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this is not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

II. PAYROLL REQUIREMENTS

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

III. POSTINGS AT THE SITE OF THE WORK

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

- a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.
- b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)
- c. A copy of the contractor's Equal Employment Opportunity Policy.
- d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

IV. WAGE RATE REDISTRIBUTION

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

V. ADDITIONAL CLASSIFICATIONS

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.
2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.
3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.
4. The unlisted classification must be commonly employed in the area where the project is located.
5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.
6. The request should be made prior to the actual performance of the work by the unlisted classification.
7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.
8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe

benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

**ANNUAL PREVAILING WAGE RATE DETERMINATION
FOR ALL STATE HIGHWAY PROJECTS
BROWN COUNTY**

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2013

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions regarding the proper trade or classification to be used for any worker on a public works project.

OVERTIME: Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

FUTURE INCREASE: If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

PREMIUM PAY: If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

SUBJOURNEY: Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	30.16	15.31	45.47
Cement Finisher	31.52	16.60	48.12
Future Increase(s): Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16.			
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	28.01	16.49	44.50
Fence Erector	28.00	4.50	32.50
Ironworker	28.03	21.97	50.00
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	23.62	9.07	32.69
Pavement Marking Operator	24.10	16.85	40.95
Piledriver	30.66	15.31	45.97
Roofer or Waterproofer	20.93	5.48	26.41
Teledata Technician or Installer	21.26	11.75	33.01
Tuckpointer, Caulker or Cleaner	23.41	14.51	37.92
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	33.35	14.21	47.56
Light Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.50	15.09	50.59
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
TRUCK DRIVERS			
Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.31	17.13	40.44
Future Increase(s): Add \$1.85/hr on 6/1/2013. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	27.77	19.90	47.67
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm .			
Pavement Marking Vehicle	23.99	14.70	38.69
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69
LABORERS			
General Laborer	28.07	13.90	41.97
Future Increase(s): Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Pay: Add \$.10/hr for topman, air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add \$.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add \$.20/hr for blaster and powderman; Add \$.25/hr for bottomman; Add \$.35/hr for line and grade specialist; Add \$.45/hr for pipelayer. DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	30.06	0.00	30.06
Landscaper	28.07	13.90	41.97
Future Increase(s): Add \$1.70/hr on 6/1/13; Add \$1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	24.70	13.90	38.60
Future Increase(s): Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.81	12.22	30.03
Railroad Track Laborer	23.41	15.14	38.55

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
HEAVY EQUIPMENT OPERATORS			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm .	35.22	19.90	55.12
Backhoe (Track Type) Having a Mfr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm .	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.	34.22	19.90	54.12

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
<u>\$</u>	<u>\$</u>	<u>\$</u>	<u>\$</u>
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm .			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.	33.96	19.90	53.86
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm .			
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oilier; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.	33.67	19.90	53.57
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr night work premium. See DOT's website for details about the applicability of this night work premium at: http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm .			
Fiber Optic Cable Equipment.	25.74	15.85	41.59
Work Performed on the Great Lakes Including Diver; Wet Tender or Hydraulic Dredge Engineer.	37.45	19.45	56.90
Work Performed on the Great Lakes Including 70 Ton & Over Tug Operator; Assistant Hydraulic Dredge Engineer; Crane or Backhoe Operator; Hydraulic Dredge Leverman or Diver's Tender; Mechanic or Welder.	37.45	19.45	56.90
Work Performed on the Great Lakes Including Deck Equipment Operator or Machineryman (Maintains Cranes Over 50 Tons or Backhoes 115,000 Lbs. or More); Tug, Launch or Loader, Dozer or Like Equipment When Operated on a Barge, Breakwater Wall, Slip, Dock or Scow, Deck Machinery.	27.75	19.15	46.90
Work Performed on the Great Lakes Including Deck Equipment Operator, Machineryman or Fireman (Operates 4 Units or More or Maintains Cranes 50 Tons or Under or Backhoes 115,000 Lbs. or Under); Deck Hand, Deck Engineer or Assistant Tug Operator; Off Road Trucks-Great Lakes ONLY.	27.75	19.15	46.90

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: February 1, 2013

LABORERS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits		Basic Hourly Rates	Fringe Benefits
Group 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence and Bridge Builder; Landscaper, Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, Utility Man); Batch Truck Dumper; or Cement Handler; Bituminous Worker; (Dumper, Ironer, Smoother, Tamper); Concrete Handler	\$26.92	13.45			
Group 2: Air Tool Operator; Joint Sawyer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);	27.02	13.45			
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man	27.07	13.45			
Group 4: Line and Grade Specialist	27.27	13.45			
Group 5: Blaster and Powderman	27.12	13.45			
Group 6: Flagperson; Traffic Control	23.55	13.45			
			<u>Truck Drivers:</u>		
			1 & 2 Axles	23.16	17.13
			Three or More Axles; Euclids, Dumptr & Articulated, Truck Mechanic	23.31	17.13

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5(a)(1)(ii)). Includes Modification #0, dated January 4, 2013; Modification #1 dated February 1, 2013.

CLASSES OF LABORER AND MECHANICS

Bricklayer	30.77	16.62
Carpenter	30.48	15.80
Millwright	32.11	15.80
Piledriverman	30.98	15.80
Ironworker	28.23	22.72
Cement Mason/Concrete Finisher	31.52	16.30
Electrician	See Page 3	
Line Construction		
Lineman.....	38.25	18.00
Heavy Equipment Operator	34.43	16.71
Equipment Operator.....	30.60	15.41
Heavy Groundman Driver.....	26.78	14.11
Light Groundman Driver	24.86	13.45
Groundsman.....	21.04	12.16
Painters	23.37	11.52
Well Drilling:		
Well Driller.....	16.52	3.70

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: February 1, 2013

<u>POWER EQUIPMENT OPERATORS CLASSIFICATION:</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>	<u>POWER EQUIPMENT OPERATORS CLASSIFICATION: (Continued)</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>
Group 1: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of over 100 tons or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 176 feet or longer	\$35.22	\$19.65	(scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader hydraulic backhoe (tractor-type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller (over 5 tons); percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches and A-frames; post driver; material hoist operator.	\$34.22	\$19.65
Group 2: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of 100 tons or less or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 175 feet or less, and backhoes (excavators) having a manufacturer's rated capacity of 3 cu. yds. and over, caisson rigs, pile driver, dredge operator, dredge engineer.	\$34.72	\$19.65	Group 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self-propelled; tractor (mounted or towed compactors and light equipment); shouldering machine; self-propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint saw (multiple blade) belting machine; burlap machine; texturing machine; tractor, endloader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner.	\$33.96	\$19.65
Group 3: Mechanic or welder - heavy duty equipment, cranes with a lifting capacity of 25 tons or less, concrete breaker (manual or remote); vibrator/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pavement spreader - heavy duty (rubber tired); concrete spreader and distributor, automatic subgrader (concrete); concrete grinder and planing machine; concrete slipform curb and gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi and over); bridge paver; concrete conveyor system; concrete pump; stabilizing mixer (self propelled); shoulder widener; asphalt plant engineer; bituminous paver; bump cutter and grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer and scarifier; backhoes (excavators) having a manufacturers rated capacity of under 3 cu. yds.; grader or motor patrol; tractor			Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete proportioning plants generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; oiler; pump (over 3 inches); drilling machine helper.	\$33.67	\$19.65
			Group 6: Off - road material hauler with or without ejector	\$27.77	\$19.65
			Premium Pay: EPA Level "A" protection - \$3.00 per hour EPA Level "B" protection - \$2.00 per hour EPA Level "C" protection - \$1.00 per hours		

SUPERSEDES DECISION WI20070010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

DECISION NUMBER: W1080010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: February 1, 2013

LABORERS CLASSIFICATION: Rates Benefits

			Area 4 -	BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE (Wausauke and area south thereof), OCONTO, MENOMINEE (East of a line 6 miles West of the West boundary of Oconto County), SHAWANO (except area North of Townships of Aniwa and Hutchins) COUNTIES.
Electricians				
Area 1	\$27.80	16.52		
Area 2:				
Electricians.....	29.13	17.92	Area 5 -	ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausauke), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES
Area 3:				
Electrical contracts under \$130,000	26.24	16.85		
Electrical contracts over \$130,000	29.41	16.97		
Area 4:	28.10	17.24		
Area 5	28.61	16.60		
Area 6	35.25	19.30	Area 6 -	KENOSHA COUNTY
Area 8				
Electricians.....	30.00	17.76	Area 8 -	DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES
Area 9:				
Electricians.....	32.94	18.71	Area 9 -	COLUMBIA, DANE, DODGE, (area west of Hwy. 26, except Chester & Emmet Townships), GREEN LAKE (except townships of Berlin, Seneca and St. Marie), IOWA, MARQUETTE (except townships of Neshkoka, Crystal Lake, Newton and Springfield), and SAUK COUNTIES
Area 10	28.97	19.55		
Area 11	31.27	23.12		
Area 12	32.87	19.23		
Area 13	32.20	21.64	Area 10 -	CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES
Teledata System Installer				
Area 14			Area 11 -	DOUGLAS COUNTY
Installer/Technician	21.89	11.83		
Sound & Communications			Area 12 -	RACINE (except Burlington township) COUNTY
Area 15				
Installer	16.47	14.84	Area 13 -	MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES
Technician.....	24.75	16.04	Area 14 -	Statewide.
Area 1 -			Area 15 -	DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupun), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES.
CALUMET (except township of New Holstein), GREEN LAKE (N. part, including Townships of Berlin, St. Marie and Seneca), MARQUETTE (N. part, including Townships of Crystal Lake, Neshkoro, Newton & Springfield), OUTAGAMIE, WAUPACA, WAUSHARA and WINNEBAGO COUNTIES.				
Area 2 -				
ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Mayville, Colby, Unity, Sherman, Fremont, Lynn and Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST. CROIX, SAWYER, TAYLOR, TREMPLEAU, VERNON and WASHBURN COUNTIES				
Area 3 -				
FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)				

FEBRUARY 1999

**NOTICE TO BIDDERS
WAGE RATE DECISION**

The wage rate decision of the Secretary of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Secretary of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate. The higher of state or federal rate will apply.

Wisconsin Department of Transportation

PAGE: 1

DATE: 04/22/13

REVISED:

SCHEDULE OF ITEMS

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

SECTION 0001 ROADWAY

0010	201.0105 CLEARING ***P**	190.000				
	STA		.		.	
0020	201.0205 GRUBBING ***P**	199.000				
	STA		.		.	
0030	203.0100 REMOVING SMALL PIPE CULVERTS	50.000				
	EACH		.		.	
0040	203.0200 REMOVING OLD STRUCTURE (STATION) 01. 823+00	LUMP	LUMP			.
0050	203.0200 REMOVING OLD STRUCTURE (STATION) 02. 865+00	LUMP	LUMP			.
0060	203.0200 REMOVING OLD STRUCTURE (STATION) 03. 66+40	LUMP	LUMP			.
0070	203.0200 REMOVING OLD STRUCTURE (STATION) 04. 62+90	LUMP	LUMP			.
0080	203.0200 REMOVING OLD STRUCTURE (STATION) 05. 918+50	LUMP	LUMP			.
0090	203.0200 REMOVING OLD STRUCTURE (STATION) 06. 945+50	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	203.0200 REMOVING OLD STRUCTURE (STATION) 07. 929+50	LUMP	LUMP			.
0110	203.0200 REMOVING OLD STRUCTURE (STATION) 700. 399+65	LUMP	LUMP			.
0120	203.0200 REMOVING OLD STRUCTURE (STATION) 703. 821+55.61 SB	LUMP	LUMP			.
0130	203.0200 REMOVING OLD STRUCTURE (STATION) 704. 821+55.61 NB	LUMP	LUMP			.
0140	203.0200 REMOVING OLD STRUCTURE (STATION) 705. 837+41 SB	LUMP	LUMP			.
0150	203.0200 REMOVING OLD STRUCTURE (STATION) 706. 838+10 NB	LUMP	LUMP			.
0160	203.0200 REMOVING OLD STRUCTURE (STATION) 710. 889+30.10 'NB'	LUMP	LUMP			.
0170	203.0200 REMOVING OLD STRUCTURE (STATION) 711. 888+95.18 'NB'	LUMP	LUMP			.
0180	203.0200 REMOVING OLD STRUCTURE (STATION) 712. 894+75.47 'NB'	LUMP	LUMP			.
0190	203.0200 REMOVING OLD STRUCTURE (STATION) 713. 894+04.16 'NB'	LUMP	LUMP			.

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			DOLLARS	CTS	DOLLARS	CTS
0200	203.0200 REMOVING OLD STRUCTURE (STATION) 714. 931+64.56 'SB'	LUMP	LUMP			.
0210	203.0200 REMOVING OLD STRUCTURE (STATION) 715. 931+30.29 'NB'	LUMP	LUMP			.
0220	203.0200 REMOVING OLD STRUCTURE (STATION) 716. 961SB+30	LUMP	LUMP			.
0230	203.0200 REMOVING OLD STRUCTURE (STATION) 717. STA. 961+00	LUMP	LUMP			.
0240	203.0200 REMOVING OLD STRUCTURE (STATION) 718. STA. 983+00	LUMP	LUMP			.
0250	203.0200 REMOVING OLD STRUCTURE (STATION) 719. STA 983+00	LUMP	LUMP			.
0260	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 700. B-05-109	LUMP	LUMP			.
0270	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 703. B-05-107	LUMP	LUMP			.
0280	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 704. B-05-114	LUMP	LUMP			.
0290	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 705. B-05-135	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0300	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 706. B-05-136	LUMP	LUMP			.
0310	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 710. B-5-137	LUMP	LUMP			.
0320	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 711. B-5-138	LUMP	LUMP			.
0330	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 712. B-5-139	LUMP	LUMP			.
0340	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 713. B-5-140	LUMP	LUMP			.
0350	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 714. B-05-115	LUMP	LUMP			.
0360	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 715. B-05-124	LUMP	LUMP			.
0370	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 716. B-5-116	LUMP	LUMP			.
0380	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 717. B-5-132	LUMP	LUMP			.
0390	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 718. B-05-82	LUMP	LUMP			.

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			DOLLARS	CTS	DOLLARS	CTS
0400	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 719. B-5-83	LUMP	LUMP			.
0410	204.0100 REMOVING PAVEMENT ***P**	191,245.000 SY	.			.
0420	204.0110 REMOVING ASPHALTIC SURFACE ***P**	1,160.000 SY	.			.
0430	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS ***P**	100.000 SY	.			.
0440	204.0120 REMOVING ASPHALTIC SURFACE MILLING ***P**	12,710.000 SY	.			.
0450	204.0150 REMOVING CURB & GUTTER ***P**	10,620.000 LF	.			.
0460	204.0155 REMOVING CONCRETE SIDEWALK ***P**	4,370.000 SY	.			.
0470	204.0157 REMOVING CONCRETE BARRIER ***P**	350.000 LF	.			.
0480	204.0165 REMOVING GUARDRAIL ***P**	2,105.000 LF	.			.
0490	204.0170 REMOVING FENCE ***P**	43,500.000 LF	.			.

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1133-09-74
1133-09-76FEDERAL ID(S):
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WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0500	204.0180 REMOVING DELINEATORS AND MARKERS	390.000 EACH	.		.	
0510	204.0195 REMOVING CONCRETE BASES	28.000 EACH	.		.	
0520	204.0210 REMOVING MANHOLES	7.000 EACH	.		.	
0530	204.0220 REMOVING INLETS	67.000 EACH	.		.	
0540	204.0245 REMOVING STORM SEWER (SIZE) **P** 10. 10-INCH	110.000 LF	.		.	
0550	204.0245 REMOVING STORM SEWER (SIZE) **P** 12. 12-INCH	1,500.000 LF	.		.	
0560	204.0245 REMOVING STORM SEWER (SIZE) **P** 15. 15-INCH	85.000 LF	.		.	
0570	204.0245 REMOVING STORM SEWER (SIZE) **P** 18. 18-INCH	2,285.000 LF	.		.	
0580	204.0245 REMOVING STORM SEWER (SIZE) **P** 21. 21-INCH	15.000 LF	.		.	
0590	204.0245 REMOVING STORM SEWER (SIZE) **P** 24. 24-INCH	350.000 LF	.		.	

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0600	204.0245 REMOVING STORM SEWER (SIZE) **P** 27. 27-INCH	340.000 LF	.		.	
0610	204.0245 REMOVING STORM SEWER (SIZE) **P** 54. 54-INCH	40.000 LF	.		.	
0620	204.0291.S ABANDONING SEWER	320.000 CY	.		.	
0630	204.9090.S REMOVING (ITEM DESCRIPTION) 01. DRAIN SLOTTED VANE	220.000 LF	.		.	
0640	205.0100 EXCAVATION COMMON	668,040.000 CY	.		.	
0650	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 700. B-05-611	LUMP	LUMP		.	
0660	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 701. B-05-612	LUMP	LUMP		.	
0670	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 703. B-05-616	LUMP	LUMP		.	
0680	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 704. B-05-617	LUMP	LUMP		.	

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1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
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			DOLLARS	CTS	DOLLARS	CTS
0690	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 705. B-05-618	LUMP	LUMP			.
0700	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 706. B-05-619	LUMP	LUMP			.
0710	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 707. B-05-621	LUMP	LUMP			.
0720	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 708. B-05-622	LUMP	LUMP			.
0730	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 709. B-05-623	LUMP	LUMP			.
0740	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 710. B-5-624	LUMP	LUMP			.
0750	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 711. B-05-625	LUMP	LUMP			.
0760	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 712. B-05-626	LUMP	LUMP			.

SCHEDULE OF ITEMS

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1133-03-77
1133-09-71
1133-09-74
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			DOLLARS	CTS	DOLLARS	CTS
0770	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 713. B-05-627	LUMP	LUMP			.
0780	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 714. B-05-628	LUMP	LUMP			.
0790	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 715. B-05-629	LUMP	LUMP			.
0800	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 716. B-05-630	LUMP	LUMP			.
0810	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 717. B-05-631	LUMP	LUMP			.
0820	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 718. B-05-632	LUMP	LUMP			.
0830	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 719. B-5-633	LUMP	LUMP			.
0840	206.6000.S TEMPORARY SHORING	80,682.000 SF		.		.

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			DOLLARS	CTS	DOLLARS	CTS
0850	209.0100 BACKFILL GRANULAR	1,200.000 CY	.		.	
0860	209.0300.S BACKFILL COARSE AGGREGATE (SIZE) 01. NO. 1	16.000 CY	.		.	
0870	210.0100 BACKFILL STRUCTURE **P**	9,100.000 CY	.		.	
0880	213.0100 FINISHING ROADWAY (PROJECT) 01. 1133-03-77	1.000 EACH	.		.	
0890	213.0100 FINISHING ROADWAY (PROJECT) 02. 1133-09-71	1.000 EACH	.		.	
0900	305.0110 BASE AGGREGATE DENSE 3/4-INCH	15,900.000 TON	.		.	
0910	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	292,410.000 TON	.		.	
0920	311.0110 BREAKER RUN	347,300.000 TON	.		.	
0930	315.0100 ASPHALTIC BASE	68,100.000 TON	.		.	
0940	320.0150 CONCRETE BASE 8 1/2-INCH **P**	7,035.000 SY	.		.	

SCHEDULE OF ITEMS

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1133-03-77
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WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
0950	416.0160 CONCRETE DRIVEWAY 6-INCH	500.000 SY	.		.	
0960	416.0610 DRILLED TIE BARS	875.000 EACH	.		.	
0970	416.0620 DRILLED DOWEL BARS	560.000 EACH	.		.	
0980	416.1110 CONCRETE RUMBLE STRIPS SHOULDER **P**	80,150.000 LF	.		.	
0990	440.4410.S INCENTIVE IRI RIDE	91,310.000 DOL	1.000000		91310.00	
1000	455.0105 ASPHALTIC MATERIAL PG58-28	2,321.000 TON	.		.	
1010	455.0605 TACK COAT	4,021.000 GAL	.		.	
1020	460.1100 HMA PAVEMENT TYPE E-0.3	14,650.000 TON	.		.	
1030	460.1101 HMA PAVEMENT TYPE E-1	3,250.000 TON	.		.	
1040	460.1110 HMA PAVEMENT TYPE E-10	19,000.000 TON	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1050	460.2000 INCENTIVE DENSITY HMA PAVEMENT	23,640.000 DOL	1.00000		23640.00	
1060	465.0105 ASPHALTIC SURFACE	640.000 TON	.		.	
1070	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	20.000 TON	.		.	
1080	465.0310 ASPHALTIC CURB	5,370.000 LF	.		.	
1090	465.0315 ASPHALTIC FLUMES ***P**	195.000 SY	.		.	
1100	465.0400 ASPHALTIC SHOULDER RUMBLE STRIP ***P**	34,500.000 LF	.		.	
1110	502.3200 PROTECTIVE SURFACE TREATMENT ***P**	37,048.000 SY	.		.	
1120	502.6105 MASONRY ANCHORS TYPE S 5/8-INCH ***P**	15.000 EACH	.		.	
1130	502.6110 MASONRY ANCHORS TYPE S 3/4-INCH ***P**	226.000 EACH	.		.	
1140	503.0137 PRESTRESSED GIRDER TYPE I 36W-INCH ***P**	4,866.000 LF	.		.	

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WISC 2013315
WISC 2013316

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1150	503.0146 PRESTRESSED GIRDER TYPE I 45W-INCH **P**	23,481.000 LF	.		.	
1160	503.0172 PRESTRESSED GIRDER TYPE I 72W-INCH **P**	3,020.000 LF	.		.	
1170	504.0500 CONCRETE MASONRY RETAINING WALLS **P**	4,367.000 CY	.		.	
1180	504.0900 CONCRETE MASONRY ENDWALLS **P**	2.000 CY	.		.	
1190	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	198,580.000 LB	.		.	
1200	505.0415 BAR STEEL REINFORCEMENT HS RETAINING WALLS	1,860.000 LB	.		.	
1210	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	2,608,700 LB	.		.	
1220	505.0615 BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	463,070.000 LB	.		.	
1230	505.0904 BAR COUPLERS NO. 4	32.000 EACH	.		.	
1240	505.0905 BAR COUPLERS NO. 5	1,893.000 EACH	.		.	

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1133-03-77
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1133-09-74
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
1250	505.0906 BAR COUPLERS NO. 6	212.000 EACH	.		.	
1260	505.0908 BAR COUPLERS NO. 8	96.000 EACH	.		.	
1270	506.2605 BEARING PADS ELASTOMERIC NON-LAMINATED **P**	616.000 EACH	.		.	
1280	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 700. B-05-611	42.000 EACH	.		.	
1290	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 701. B-05-612	20.000 EACH	.		.	
1300	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 703. B-05-616	34.000 EACH	.		.	
1310	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 704. B-05-617	22.000 EACH	.		.	
1320	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 705. B-05-618	40.000 EACH	.		.	
1330	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 706. B-05-619	32.000 EACH	.		.	
1340	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 707. B-05-621	16.000 EACH	.		.	

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WISC 2013315
WISC 2013316

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1350	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 708. B-05-622	15.000 EACH	.		.	
1360	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 709. B-05-623	15.000 EACH	.		.	
1370	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 710. B-5-624	36.000 EACH	.		.	
1380	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 711. B-05-625	27.000 EACH	.		.	
1390	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 712. B-05-626	36.000 EACH	.		.	
1400	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 713. B-05-627	24.000 EACH	.		.	
1410	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 714. B-05-628	24.000 EACH	.		.	
1420	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 715. B-05-629	24.000 EACH	.		.	
1430	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 716. B-05-630	24.000 EACH	.		.	
1440	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 717. B-05-631	22.000 EACH	.		.	

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1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
1450	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 718. B-05-632	18.000 EACH	.		.	
1460	506.4000 STEEL DIAPHRAGMS (STRUCTURE) **P** 719. B-05-633	18.000 EACH	.		.	
1470	516.0500 RUBBERIZED MEMBRANE WATERPROOFING **P**	975.000 SY	.		.	
1480	520.4012 CULVERT PIPE TEMPORARY 12-INCH	712.000 LF	.		.	
1490	520.4018 CULVERT PIPE TEMPORARY 18-INCH	335.000 LF	.		.	
1500	520.4024 CULVERT PIPE TEMPORARY 24-INCH	72.000 LF	.		.	
1510	520.4042 CULVERT PIPE TEMPORARY 42-INCH	176.000 LF	.		.	
1520	520.8000 CONCRETE COLLARS FOR PIPE	70.000 EACH	.		.	
1530	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	5.000 EACH	.		.	
1540	522.0112 CULVERT PIPE REINFORCED CONCRETE CLASS III 12-INCH	164.000 LF	.		.	

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1133-03-77
1133-09-71
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1133-09-76FEDERAL ID(S):
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
1550	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH	110.000 LF	.		.	
1560	522.0130 CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH	84.000 LF	.		.	
1570	522.0142 CULVERT PIPE REINFORCED CONCRETE CLASS III 42-INCH	340.000 LF	.		.	
1580	522.0172 CULVERT PIPE REINFORCED CONCRETE CLASS III 72-INCH	24.000 LF	.		.	
1590	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	13.000 EACH	.		.	
1600	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	13.000 EACH	.		.	
1610	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	40.000 EACH	.		.	
1620	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	15.000 EACH	.		.	
1630	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	6.000 EACH	.		.	

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1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
1640	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH	EACH 8.000	.		.	
1650	522.1042 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 42-INCH	EACH 8.000	.		.	
1660	522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH 2.000	.		.	
1670	522.1072 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 72-INCH	EACH 2.000	.		.	
1680	523.0119 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	LF 50.000	.		.	
1690	523.0134 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	LF 118.000	.		.	
1700	523.0519 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 19X30-INCH	EACH 4.000	.		.	

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1133-03-77
1133-09-71
1133-09-74
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WISC 2013314
WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
1710	523.0524 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	2.000 EACH				
1720	523.0534 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 34X53-INCH	4.000 EACH				
1730	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 900. N-05-0010-01 **P**	94,000.000 SF				
1740	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 901. N-05-0011-01 **P**	73,000.000 SF				
1750	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 902. N-05-0010-02 **P**	14,000.000 SF				
1760	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 903. N-05-0011-02 **P**	49,000.000 SF				
1770	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 904. N-05-0012 **P**	34,000.000 SF				

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1133-03-77
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WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
1780	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 905. N-05-0013 **P**	SF 55,000.000	.		.	
1790	531.0200.S NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 906. N-05-0014 **P**	SF 15,000.000	.		.	
1800	532.0700.S WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF 134,150.000	.		.	
1810	532.0750.S TEMPORARY WALL WIRE FACED MECHANICALLY STABILIZED EARTH	SF 3,890.000	.		.	
1820	550.0020 PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF 390.000	.		.	
1830	550.0500 PILE POINTS	EACH 363.000	.		.	
1840	550.1120 PILING STEEL HP 12-INCH X 53 LB	LF 80,874.000	.		.	
1850	601.0105 CONCRETE CURB TYPE A **P**	LF 10.000	.		.	
1860	601.0110 CONCRETE CURB TYPE D **P**	LF 160.000	.		.	

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1133-03-77
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			DOLLARS	CTS	DOLLARS	CTS
1870	601.0405 CONCRETE CURB & GUTTER 18-INCH TYPE A **P**	670.000 LF	.		.	
1880	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D **P**	250.000 LF	.		.	
1890	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A **P**	8,075.000 LF	.		.	
1900	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D **P**	8,135.000 LF	.		.	
1910	601.0413 CONCRETE CURB & GUTTER 6-INCH SLOPED 30-INCH TYPE G **P**	90.000 LF	.		.	
1920	601.0452 CONCRETE CURB & GUTTER INTEGRAL 30-INCH TYPE D **P**	5,230.000 LF	.		.	
1930	601.0574 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G **P**	5,060.000 LF	.		.	
1940	601.0576 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J **P**	120.000 LF	.		.	
1950	601.0600 CONCRETE CURB PEDESTRIAN **P**	140.000 LF	.		.	
1960	602.0410 CONCRETE SIDEWALK 5-INCH **P**	38,080.000 SF	.		.	

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1133-03-77
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WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1970	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW **P**	192.000 SF	.		.	
1980	603.1132 CONCRETE BARRIER TYPE S32 **P**	2,510.000 LF	.		.	
1990	603.1142 CONCRETE BARRIER TYPE S42 **P**	14,620.000 LF	.		.	
2000	603.3113 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 **P**	12.000 EACH	.		.	
2010	603.3513 CONCRETE BARRIER TRANSITION TYPE S32 TO S36 **P**	2.000 EACH	.		.	
2020	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 **P**	14.000 EACH	.		.	
2030	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	82,605.000 LF	.		.	
2040	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	148,270.000 LF	.		.	
2050	604.0400 SLOPE PAVING CONCRETE **P**	1,185.000 SY	.		.	
2060	604.0500 SLOPE PAVING CRUSHED AGGREGATE **P**	2,594.000 SY	.		.	

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2070	606.0200 RIPRAP MEDIUM	1,600.000				
		CY	.		.	
2080	606.0300 RIPRAP HEAVY	1,150.000				
		CY	.		.	
2090	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	2,106.000				
		LF	.		.	
2100	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	1,211.000				
		LF	.		.	
2110	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	6,011.000				
		LF	.		.	
2120	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	15,566.000				
		LF	.		.	
2130	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	4,544.000				
		LF	.		.	
2140	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	513.000				
		LF	.		.	
2150	608.0342 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	460.000				
		LF	.		.	
2160	608.0348 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	87.000				
		LF	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2170	608.0354 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 54-INCH	32.000 LF	.		.	
2180	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH	129.000 LF	.		.	
2190	608.0515 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 15-INCH	110.000 LF	.		.	
2200	608.0524 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 24-INCH	107.000 LF	.		.	
2210	608.0548 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 48-INCH	942.000 LF	.		.	
2220	609.0130 RELAID STORM SEWER 30-INCH	44.000 LF	.		.	
2230	610.0119 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 19X30-INCH	296.000 LF	.		.	
2240	610.0124 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH	205.000 LF	.		.	
2250	610.0134 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 34X53-INCH	212.000 LF	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2260	610.0419 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 19X30-INCH	350.000 LF	.		.	
2270	611.0420 RECONSTRUCTING MANHOLES	4.000 EACH	.		.	
2280	611.0430 RECONSTRUCTING INLETS	23.000 EACH	.		.	
2290	611.0535 MANHOLE COVERS TYPE J-SPECIAL	88.000 EACH	.		.	
2300	611.0612 INLET COVERS TYPE C	3.000 EACH	.		.	
2310	611.0624 INLET COVERS TYPE H	68.000 EACH	.		.	
2320	611.0639 INLET COVERS TYPE H-S	17.000 EACH	.		.	
2330	611.0642 INLET COVERS TYPE MS	32.000 EACH	.		.	
2340	611.0654 INLET COVERS TYPE V	269.000 EACH	.		.	
2350	611.0666 INLET COVERS TYPE Z	5.000 EACH	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2360	611.2004 MANHOLES 4-FT DIAMETER	85.000 EACH	.		.	
2370	611.2005 MANHOLES 5-FT DIAMETER	1.000 EACH	.		.	
2380	611.2006 MANHOLES 6-FT DIAMETER	44.000 EACH	.		.	
2390	611.2007 MANHOLES 7-FT DIAMETER	1.000 EACH	.		.	
2400	611.2008 MANHOLES 8-FT DIAMETER	6.000 EACH	.		.	
2410	611.3003 INLETS 3-FT DIAMETER	201.000 EACH	.		.	
2420	611.3004 INLETS 4-FT DIAMETER	4.000 EACH	.		.	
2430	611.3220 INLETS 2X2-FT	24.000 EACH	.		.	
2440	611.3225 INLETS 2X2.5-FT	23.000 EACH	.		.	
2450	611.3230 INLETS 2X3-FT	63.000 EACH	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2460	611.3901 INLETS MEDIAN 1 GRATE	6.000 EACH	.		.	
2470	611.3902 INLETS MEDIAN 2 GRATE	6.000 EACH	.		.	
2480	611.8110 ADJUSTING MANHOLE COVERS	1.000 EACH	.		.	
2490	611.8115 ADJUSTING INLET COVERS	23.000 EACH	.		.	
2500	611.8120.S COVER PLATES TEMPORARY	37.000 EACH	.		.	
2510	611.9800.S PIPE GRATES	10.000 EACH	.		.	
2520	612.0206 PIPE UNDERDRAIN UNPERFORATED 6-INCH	1,060.000 LF	.		.	
2530	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH	341.000 LF	.		.	
2540	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	21,890.000 LF	.		.	
2550	612.0902.S INSULATION BOARD POLYSTYRENE (INCH) 01. 2-INCH	44.000 SY	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2560	614.0150 ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	19.000 EACH	.		.	
2570	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL	4.000 EACH	.		.	
2580	614.0230 STEEL THRIE BEAM	810.000 LF	.		.	
2590	614.0396 GUARDRAIL MOW STRIP ASPHALT	8,280.000 SY	.		.	
2600	614.0805 CRASH CUSHIONS PERMANENT LOW MAINTENANCE	1.000 EACH	.		.	
2610	614.0905 CRASH CUSHIONS TEMPORARY	67.000 EACH	.		.	
2620	614.0920 SALVAGED RAIL	21,595.000 LF	.		.	
2630	614.0925 SALVAGED GUARDRAIL END TREATMENTS	65.000 EACH	.		.	
2640	614.2300 MGS GUARDRAIL 3	18,605.000 LF	.		.	
2650	614.2320 MGS GUARDRAIL 3 QS	200.000 LF	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2660	614.2500 MGS THRIE BEAM TRANSITION	1,085.000 LF	.		.	
2670	614.2610 MGS GUARDRAIL TERMINAL EAT	34.000 EACH	.		.	
2680	614.2620 MGS GUARDRAIL TERMINAL TYPE 2	28.000 EACH	.		.	
2690	616.0100 FENCE WOVEN WIRE (HEIGHT) 001. 4-FT	3,000.000 LF	.		.	
2700	616.0204 FENCE CHAIN LINK 4-FT	14,570.000 LF	.		.	
2710	616.0700.S FENCE SAFETY	5,000.000 LF	.		.	
2720	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1133-03-77	1.000 EACH	.		.	
2730	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 02. 1133-09-71	1.000 EACH	.		.	
2740	619.1000 MOBILIZATION	1.000 EACH	.		.	
2750	620.0100 CONCRETE CORRUGATED MEDIAN ***P**	235.000 SF	.		.	

SCHEDULE OF ITEMS

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2760	620.0300 CONCRETE MEDIAN SLOPED NOSE **P**	840.000 SF	.		.	
2770	624.0100 WATER	9,400.000 MGAL	.		.	
2780	625.0500 SALVAGED TOPSOIL	533,870.000 SY	.		.	
2790	627.0200 MULCHING	149,520.000 SY	.		.	
2800	628.1504 SILT FENCE	17,600.000 LF	.		.	
2810	628.1520 SILT FENCE MAINTENANCE	8,800.000 LF	.		.	
2820	628.1905 MOBILIZATIONS EROSION CONTROL	90.000 EACH	.		.	
2830	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	54.000 EACH	.		.	
2840	628.2004 EROSION MAT CLASS I TYPE B	396,000.000 SY	.		.	
2850	628.2008 EROSION MAT URBAN CLASS I TYPE B	3,350.000 SY	.		.	

SCHEDULE OF ITEMS

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2860	628.7005 INLET PROTECTION TYPE A	586.000 EACH	.		.	
2870	628.7010 INLET PROTECTION TYPE B	403.000 EACH	.		.	
2880	628.7015 INLET PROTECTION TYPE C	79.000 EACH	.		.	
2890	628.7020 INLET PROTECTION TYPE D	34.000 EACH	.		.	
2900	628.7504 TEMPORARY DITCH CHECKS	1,300.000 LF	.		.	
2910	628.7555 CULVERT PIPE CHECKS	17.000 EACH	.		.	
2920	628.7560 TRACKING PADS	35.000 EACH	.		.	
2930	628.7570 ROCK BAGS	1,180.000 EACH	.		.	
2940	629.0210 FERTILIZER TYPE B	365.000 CWT	.		.	
2950	630.0120 SEEDING MIXTURE NO. 20	10,680.000 LB	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
2960	630.0130 SEEDING MIXTURE NO. 30	2,595.000 LB	.		.	
2970	630.0140 SEEDING MIXTURE NO. 40	180.000 LB	.		.	
2980	630.0200 SEEDING TEMPORARY	14,425.000 LB	.		.	
2990	632.0101 TREES (SPECIES, ROOT, SIZE) 01. GINKGO, 'PRINCETON SENTRY', B&B, 2 1/2-INCH CAL.	10.000 EACH	.		.	
3000	632.0101 TREES (SPECIES, ROOT, SIZE) 02. HONEYLOCUST, THORNLESS 'IMPERIAL', B&B, 2 1/2-INCH CAL.	6.000 EACH	.		.	
3010	632.0101 TREES (SPECIES, ROOT, SIZE) 03. MAPLE, SILVER 'SILVER QUEEN', B&B, 2 1/2-INCH CAL.	4.000 EACH	.		.	
3020	632.0101 TREES (SPECIES, ROOT, SIZE) 04. OAK, BUR, B&B, 2-INCH CAL.	10.000 EACH	.		.	
3030	632.0101 TREES (SPECIES, ROOT, SIZE) 05. OAK, SWAMP WHITE, B&B, 2-INCH CAL.	1.000 EACH	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
3040	632.0101 TREES (SPECIES, ROOT, SIZE) 06. AMUR MAACKIA, 'STARBURST', B&B, 2-INCH CAL.	12.000 EACH	.		.	
3050	632.0101 TREES (SPECIES, ROOT, SIZE) 07. BIRCH, RIVER 'FOX VALLEY' B&B, 4-FOOT HT.	23.000 EACH	.		.	
3060	632.0101 TREES (SPECIES, ROOT, SIZE) 08. CRABAPPLE, 'ADAM'S (SHRUB FORM TREE) , B&B, 8-FOOT HT.	17.000 EACH	.		.	
3070	632.0101 TREES (SPECIES, ROOT, SIZE) 09. CRABAPPLE, 'ADIRONDAK', B&B, 2-INCH CAL.	23.000 EACH	.		.	
3080	632.0101 TREES (SPECIES, ROOT, SIZE) 10. CRABAPPLE, 'DONALD WYMAN', B&B, 2-INCH CAL.	6.000 EACH	.		.	
3090	632.0101 TREES (SPECIES, ROOT, SIZE) 11. HAWTHORN, 'WINTER KING', B&B, 2-INCH CAL.	36.000 EACH	.		.	
3100	632.0101 TREES (SPECIES, ROOT, SIZE) 12. JAPANESE TREE LILAC, 'IVORY SILK' B&B, 2-INCH CAL.	3.000 EACH	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
3110	632.0101 TREES (SPECIES, ROOT, SIZE) 13. JAPANESE TREE LILAC, 'IVORY SILK' (SHRUB FORM TREE), B&B, 8-FOOT HT.	5.000 EACH	.		.	
3120	632.0101 TREES (SPECIES, ROOT, SIZE) 14. MUSCLEWOOD, B&B, 2-INCH CAL.	13.000 EACH	.		.	
3130	632.0101 TREES (SPECIES, ROOT, SIZE) 15. PEAR, CALLERY 'CHANTICLEER', B&B 2 1/2-INCH CAL.	4.000 EACH	.		.	
3140	632.0101 TREES (SPECIES, ROOT, SIZE) 16. EASTERN REDCEDAR, HILL DUNDEE B&B, 6-FOOT HT.	13.000 EACH	.		.	
3150	632.0101 TREES (SPECIES, ROOT, SIZE) 17. SPRUCE, BLACK HILLS, B&B, 6-FOOT HT.	8.000 EACH	.		.	
3160	632.0101 TREES (SPECIES, ROOT, SIZE) 18. SPRUCE, BLACK HILLS, B&B, 8-FOOT HT.	13.000 EACH	.		.	
3170	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 01. JUNIPER, 'BAR HARBOR', CONT., 18-INCH SPR.	4.000 EACH	.		.	
3180	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 02. ROSE, 'DWARF PAVEMENT', CONT., 2-FOOT SPR.	95.000 EACH	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
3190	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 03. SPIREA, 'GOLD MOUND', CONT., 12-INCH HT.	229.000 EACH	.		.	
3200	632.0201 SHRUBS (SPECIES, ROOT, SIZE) 04. SPIREA, JAPANESE, 'FROEBELII', CONTAINER, 24-INCH HT.	20.000 EACH	.		.	
3210	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	26.000 EACH	.		.	
3220	633.0100 DELINEATOR POSTS STEEL	263.000 EACH	.		.	
3230	633.0500 DELINEATOR REFLECTORS	816.000 EACH	.		.	
3240	633.1000 DELINEATOR BRACKETS	430.000 EACH	.		.	
3250	633.5200 MARKERS CULVERT END	123.000 EACH	.		.	
3260	634.0612 POSTS WOOD 4X6-INCH X 12-FT	2.000 EACH	.		.	
3270	634.0614 POSTS WOOD 4X6-INCH X 14-FT	86.000 EACH	.		.	
3280	634.0616 POSTS WOOD 4X6-INCH X 16-FT	49.000 EACH	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
3290	634.0618 POSTS WOOD 4X6-INCH X 18-FT	24.000 EACH	.		.	
3300	634.0620 POSTS WOOD 4X6-INCH X 20-FT	6.000 EACH	.		.	
3310	634.0622 POSTS WOOD 4X6-INCH X 22-FT	6.000 EACH	.		.	
3320	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS	1,922.000 LB	.		.	
3330	636.0100 SIGN SUPPORTS CONCRETE MASONRY ***P**	1,168.000 CY	.		.	
3340	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT	196.000 LB	.		.	
3350	636.1000 SIGN SUPPORTS STEEL REINFORCEMENT HS	38,140.000 LB	.		.	
3360	636.1500 SIGN SUPPORTS STEEL COATED REINFORCEMENT HS	137,590.000 LB	.		.	
3370	637.0101 SIGNS TYPE I	15,294.000 SF	.		.	
3380	637.0202 SIGNS REFLECTIVE TYPE II	2,422.630 SF	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
3390	637.0402 SIGNS REFLECTIVE FOLDING TYPE II	92.840 SF	.		.	
3400	638.2101 MOVING SIGNS TYPE I	65.000 EACH	.		.	
3410	638.2601 REMOVING SIGNS TYPE I	58.000 EACH	.		.	
3420	638.2602 REMOVING SIGNS TYPE II	251.000 EACH	.		.	
3430	638.3000 REMOVING SMALL SIGN SUPPORTS	194.000 EACH	.		.	
3440	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS	45.000 EACH	.		.	
3450	638.3610 ERECTING STATE OWNED SIGNS TYPE I	4.000 EACH	.		.	
3460	641.1200 SIGN BRIDGE CANTILEVERED (STRUCTURE) 968. S-05-188	LUMP	LUMP		.	
3470	641.6600 SIGN BRIDGE (STRUCTURE) 950. S-05-159	LUMP	LUMP		.	
3480	641.6600 SIGN BRIDGE (STRUCTURE) 951. S-05-160	LUMP	LUMP		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3490	641.6600 SIGN BRIDGE (STRUCTURE) 952. S-05-161	LUMP	LUMP			.
3500	641.6600 SIGN BRIDGE (STRUCTURE) 953. S-05-162	LUMP	LUMP			.
3510	641.6600 SIGN BRIDGE (STRUCTURE) 954. S-05-163	LUMP	LUMP			.
3520	641.6600 SIGN BRIDGE (STRUCTURE) 955. S-05-164	LUMP	LUMP			.
3530	641.6600 SIGN BRIDGE (STRUCTURE) 956. S-05-165	LUMP	LUMP			.
3540	641.6600 SIGN BRIDGE (STRUCTURE) 957. S-05-166	LUMP	LUMP			.
3550	641.6600 SIGN BRIDGE (STRUCTURE) 958. S-05-167	LUMP	LUMP			.
3560	641.6600 SIGN BRIDGE (STRUCTURE) 959. S-05-168	LUMP	LUMP			.
3570	641.6600 SIGN BRIDGE (STRUCTURE) 960. S-05-173	LUMP	LUMP			.
3580	641.6600 SIGN BRIDGE (STRUCTURE) 961. S-05-170	LUMP	LUMP			.

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3590	641.6600 SIGN BRIDGE (STRUCTURE) 962. S-05-172	LUMP	LUMP			.
3600	641.6600 SIGN BRIDGE (STRUCTURE) 963. S-05-175	LUMP	LUMP			.
3610	641.6600 SIGN BRIDGE (STRUCTURE) 964. S-05-176	LUMP	LUMP			.
3620	641.6600 SIGN BRIDGE (STRUCTURE) 965. S-05-178	LUMP	LUMP			.
3630	641.6600 SIGN BRIDGE (STRUCTURE) 966. S-05-96	LUMP	LUMP			.
3640	641.6600 SIGN BRIDGE (STRUCTURE) 967. S-05-169	LUMP	LUMP			.
3650	641.6600 SIGN BRIDGE (STRUCTURE) 968. S-05-171	LUMP	LUMP			.
3660	641.6600 SIGN BRIDGE (STRUCTURE) 969. S-05-12	LUMP	LUMP			.
3670	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 950. SIGN BRIDGE S-05-226	LUMP	LUMP			.
3680	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 951. SIGN BRIDGE S-05-227	LUMP	LUMP			.

SCHEDULE OF ITEMS

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1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
3690	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 952. SIGN BRIDGE S-05-230	LUMP	LUMP			.
3700	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 953. S-05-233	LUMP	LUMP			.
3710	641.8100 OVERHEAD SIGN SUPPORT (STRUCTURE) 954. S-05-237	LUMP	LUMP			.
3720	642.5401 FIELD OFFICE TYPE D	1.000 EACH	.			.
3730	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1133-09-71	1,003.000 DAY	.			.
3740	643.0300 TRAFFIC CONTROL DRUMS	1,035,240 DAY	.			.
3750	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	59,405.000 DAY	.			.
3760	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	200.000 EACH	.			.
3770	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	200.000 EACH	.			.
3780	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	130,005.000 DAY	.			.

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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			DOLLARS	CTS	DOLLARS	CTS
3790	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	192,705.000 DAY	.		.	
3800	643.0800 TRAFFIC CONTROL ARROW BOARDS	6,935.000 DAY	.		.	
3810	643.0900 TRAFFIC CONTROL SIGNS	290,405.000 DAY	.		.	
3820	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I	11.000 EACH	.		.	
3830	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	45.000 EACH	.		.	
3840	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	1,610.000 SF	.		.	
3850	643.1050 TRAFFIC CONTROL SIGNS PCMS	743.000 DAY	.		.	
3860	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 01. 1133-09-71	1.000 EACH	.		.	
3870	643.3000 TRAFFIC CONTROL DETOUR SIGNS	49,684.000 DAY	.		.	
3880	645.0120 GEOTEXTILE FABRIC TYPE HR	29,940.000 SY	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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			DOLLARS	CTS	DOLLARS	CTS
3890	645.0140 GEOTEXTILE FABRIC TYPE SAS	265.000 SY	.		.	
3900	646.0103 PAVEMENT MARKING PAINT 4-INCH	195,800.000 LF	.		.	
3910	646.0106 PAVEMENT MARKING EPOXY 4-INCH	151,800.000 LF	.		.	
3920	646.0123 PAVEMENT MARKING PAINT 8-INCH	27,280.000 LF	.		.	
3930	646.0126 PAVEMENT MARKING EPOXY 8-INCH	3,150.000 LF	.		.	
3940	646.0153 PAVEMENT MARKING PAINT 18-INCH	220.000 LF	.		.	
3950	646.0600 REMOVING PAVEMENT MARKINGS	22,000.000 LF	.		.	
3960	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	75,700.000 LF	.		.	
3970	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	29,900.000 LF	.		.	
3980	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	15.000 EACH	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
3990	647.0356 PAVEMENT MARKING WORDS EPOXY	6.000 EACH	.		.	
4000	647.0456 PAVEMENT MARKING CURB EPOXY	520.000 LF	.		.	
4010	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	185.000 LF	.		.	
4020	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	10.000 EACH	.		.	
4030	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	25.000 LF	.		.	
4040	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	750.000 LF	.		.	
4050	647.0856 PAVEMENT MARKING CONCRETE CORRUGATED MEDIAN EPOXY	110.000 SF	.		.	
4060	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	63,910.000 LF	.		.	
4070	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	2,960.000 LF	.		.	
4080	649.1200 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	430.000 LF	.		.	

SCHEDULE OF ITEMS

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
4090	649.2100 TEMPORARY RAISED PAVEMENT MARKERS	1,100.000 EACH	.		.	
4100	652.0125 CONDUIT RIGID METALLIC 2-INCH	2,672.000 LF	.		.	
4110	652.0135 CONDUIT RIGID METALLIC 3-INCH	956.000 LF	.		.	
4120	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	16,991.000 LF	.		.	
4130	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	32,811.000 LF	.		.	
4140	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	6,425.000 LF	.		.	
4150	652.0615 CONDUIT SPECIAL 3-INCH	955.000 LF	.		.	
4160	652.0800 CONDUIT LOOP DETECTOR	2,657.000 LF	.		.	
4170	652.0900 LOOP DETECTOR SLOTS	78.000 LF	.		.	
4180	653.0105 PULL BOXES STEEL 12X24-INCH	24.000 EACH	.		.	

SCHEDULE OF ITEMS

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
4190	653.0135 PULL BOXES STEEL 24X36-INCH	20.000 EACH	.		.	
4200	653.0140 PULL BOXES STEEL 24X42-INCH	81.000 EACH	.		.	
4210	653.0180 PULL BOXES STEEL COMMUNICATIONS (INCH) 01. 24X36-INCH	59.000 EACH	.		.	
4220	653.0222 JUNCTION BOXES 18X12X6-INCH	12.000 EACH	.		.	
4230	653.0905 REMOVING PULL BOXES	41.000 EACH	.		.	
4240	654.0101 CONCRETE BASES TYPE 1	14.000 EACH	.		.	
4250	654.0102 CONCRETE BASES TYPE 2	4.000 EACH	.		.	
4260	654.0105 CONCRETE BASES TYPE 5	24.000 EACH	.		.	
4270	654.0107 CONCRETE BASES TYPE 7	23.000 EACH	.		.	
4280	654.0110 CONCRETE BASES TYPE 10	4.000 EACH	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
4290	654.0113 CONCRETE BASES TYPE 13	6.000 EACH	.		.	
4300	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	5.000 EACH	.		.	
4310	654.0220 CONCRETE CONTROL CABINET BASES TYPE 10	2.000 EACH	.		.	
4320	655.0220 CABLE TRAFFIC SIGNAL 4-14 AWG	72.000 LF	.		.	
4330	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	6,566.000 LF	.		.	
4340	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	192.000 LF	.		.	
4350	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	6,557.000 LF	.		.	
4360	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED	2,320.000 LF	.		.	
4370	655.0315 CABLE TYPE UF 2-10 AWG	822.000 LF	.		.	
4380	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	9,937.000 LF	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
4390	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	10,964.000 LF	.		.	
4400	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG	3,259.000 LF	.		.	
4410	655.0630 ELECTRICAL WIRE LIGHTING 4 AWG	58,594.000 LF	.		.	
4420	655.0635 ELECTRICAL WIRE LIGHTING 2 AWG	2,651.000 LF	.		.	
4430	655.0700 LOOP DETECTOR LEAD IN CABLE	10,334.000 LF	.		.	
4440	655.0800 LOOP DETECTOR WIRE	8,958.000 LF	.		.	
4450	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 451. ELECTRICAL SERVICE METER BREAKER PEDESTAL CTH AAA & ALLIED STREET	LUMP	LUMP		.	
4460	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 452. ELECTRICAL SERVICE METER BREAKER PEDESTAL USH 41 & CTH AAA	LUMP	LUMP		.	

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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			DOLLARS	CTS	DOLLARS	CTS
4470	656.0400 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 350. CB 300	LUMP	LUMP			.
4480	656.0400 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 351. CB 100	LUMP	LUMP			.
4490	656.0400 ELECTRICAL SERVICE MAIN LUGS ONLY METER PEDESTAL (LOCATION) 352. CB 200	LUMP	LUMP			.
4500	657.0100 PEDESTAL BASES	14.000 EACH	.			.
4510	657.0210 TRANSFORMER BASES BREAKAWAY 15-17 INCH BOLT CIRCLE	23.000 EACH	.			.
4520	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	23.000 EACH	.			.
4530	657.0315 POLES TYPE 4	4.000 EACH	.			.
4540	657.0322 POLES TYPE 5-ALUMINUM	20.000 EACH	.			.
4550	657.0337 POLES TYPE 17-ALUMINUM	28.000 EACH	.			.

SCHEDULE OF ITEMS

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CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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			DOLLARS	CTS	DOLLARS	CTS
4560	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	6.000 EACH	.		.	
4570	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	5.000 EACH	.		.	
4580	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	3.000 EACH	.		.	
4590	657.0609 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 6-FT	4.000 EACH	.		.	
4600	657.0610 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 6-FT	2.000 EACH	.		.	
4610	657.0620 LUMINAIRE ARMS SINGLE MEMBER 6-INCH CLAMP 4-FT	21.000 EACH	.		.	
4620	657.0709 LUMINAIRE ARMS TRUSS TYPE 4-INCH CLAMP 12-FT	2.000 EACH	.		.	
4630	657.0710 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 12-FT	4.000 EACH	.		.	
4640	657.0730 LUMINAIRE ARMS TRUSS TYPE 6-INCH CLAMP 12-FT	7.000 EACH	.		.	
4650	657.1345 INSTALL POLES TYPE 9	2.000 EACH	.		.	

SCHEDULE OF ITEMS

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CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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			DOLLARS	CTS	DOLLARS	CTS
4660	657.1350 INSTALL POLES TYPE 10	2.000 EACH	.		.	
4670	657.1360 INSTALL POLES TYPE 13	6.000 EACH	.		.	
4680	657.1525 INSTALL MONOTUBE ARMS 25-FT	2.000 EACH	.		.	
4690	657.1530 INSTALL MONOTUBE ARMS 30-FT	2.000 EACH	.		.	
4700	657.1535 INSTALL MONOTUBE ARMS 35-FT	1.000 EACH	.		.	
4710	657.1545 INSTALL MONOTUBE ARMS 45-FT	2.000 EACH	.		.	
4720	657.1555 INSTALL MONOTUBE ARMS 55-FT	3.000 EACH	.		.	
4730	657.1812 INSTALL LUMINAIRE ARMS STEEL 12-FT	7.000 EACH	.		.	
4740	657.1815 INSTALL LUMINAIRE ARMS STEEL 15-FT	2.000 EACH	.		.	
4750	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	42.000 EACH	.		.	

SCHEDULE OF ITEMS

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CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
4760	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	9.000 EACH	.		.	
4770	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	42.000 EACH	.		.	
4780	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	9.000 EACH	.		.	
4790	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	10.000 EACH	.		.	
4800	658.0500 PEDESTRIAN PUSH BUTTONS	4.000 EACH	.		.	
4810	658.0600 LED MODULES 12-INCH RED BALL	36.000 EACH	.		.	
4820	658.0605 LED MODULES 12-INCH YELLOW BALL	34.000 EACH	.		.	
4830	658.0610 LED MODULES 12-INCH GREEN BALL	34.000 EACH	.		.	
4840	658.0615 LED MODULES 12-INCH RED ARROW	15.000 EACH	.		.	
4850	658.0620 LED MODULES 12-INCH YELLOW ARROW	26.000 EACH	.		.	

SCHEDULE OF ITEMS

REVISED:

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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			DOLLARS	CTS	DOLLARS	CTS
4860	658.0625 LED MODULES 12-INCH GREEN ARROW	17.000 EACH	.		.	
4870	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	10.000 EACH	.		.	
4880	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 451. SIGNAL MOUNTING HARDWARE CTH AAA & ALLIED STREET	LUMP	LUMP		.	
4890	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 452. SIGNAL MOUNTING HARDWARE USH41 & CTH AAA	LUMP	LUMP		.	
4900	659.0115 LUMINAIRES UTILITY HPS 150 WATTS	6.000 EACH	.		.	
4910	659.0125 LUMINAIRES UTILITY HPS 250 WATTS	43.000 EACH	.		.	
4920	659.0210 LUMINAIRES UNDERDECK 100 WATTS	11.000 EACH	.		.	
4930	659.0215 LUMINAIRES UNDERDECK 150 WATTS	6.000 EACH	.		.	
4940	659.0600 UNDERDECK LIGHTING (LOCATION) 350. R-05-206	LUMP	LUMP		.	

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

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				DOLLARS	CTS	DOLLARS	CTS
4950	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-209	351.	LUMP	LUMP			.
4960	659.0600 UNDERDECK LIGHTING (LOCATION) B-05-612	352.	LUMP	LUMP			.
4970	659.0600 UNDERDECK LIGHTING (LOCATION) B-05-618	353.	LUMP	LUMP			.
4980	659.0600 UNDERDECK LIGHTING (LOCATION) B-05-619	354.	LUMP	LUMP			.
4990	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-214	361.	LUMP	LUMP			.
5000	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-215	362.	LUMP	LUMP			.
5010	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-216	363.	LUMP	LUMP			.
5020	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-217	364.	LUMP	LUMP			.
5030	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-218	365.	LUMP	LUMP			.
5040	659.0600 UNDERDECK LIGHTING (LOCATION) R-05-219	366.	LUMP	LUMP			.

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5050	659.0802 PLAQUES SEQUENCE IDENTIFICATION	42.000 EACH	.		.	
5060	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 451. TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION CTH AAA & ALLIED STREET	LUMP	LUMP		.	
5070	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 452. TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION CTH AAA & SB RAMP TERMINALS	LUMP	LUMP		.	
5080	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 453. TEMPORARY TRAFFIC SIGNALS FOR INTERSECTION CTH AAA & NB RAMP TERMINALS	LUMP	LUMP		.	
5090	661.0300 GENERATORS	6.000 DAY	.		.	
5100	670.0100 FIELD SYSTEM INTEGRATOR	LUMP	LUMP		.	
5110	670.0200 ITS DOCUMENTATION	LUMP	LUMP		.	

SCHEDULE OF ITEMS

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
5120	672.0250 BASE CAMERA POLE 50-FT	1.000 EACH	.		.	
5130	672.0280 BASE CAMERA POLE 80-FT	1.000 EACH	.		.	
5140	673.0105 COMMUNICATION VAULT TYPE 1	33.000 EACH	.		.	
5150	673.0225.S INSTALL POLE MOUNTED CABINET	2.000 EACH	.		.	
5160	674.0200 CABLE MICROWAVE DETECTOR	21,617.000 LF	.		.	
5170	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	16.000 EACH	.		.	
5180	675.0400.S INSTALL ETHERNET SWITCH	5.000 EACH	.		.	
5190	677.0100 INSTALL CAMERA POLE	2.000 EACH	.		.	
5200	677.0200 INSTALL CAMERA ASSEMBLY	2.000 EACH	.		.	
5210	677.0300.S INSTALL VIDEO ENCODER	2.000 EACH	.		.	

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1133-03-77
1133-09-71
1133-09-74
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
5220	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	770.000 LF	.		.	
5230	678.0072 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 72-CT	26,310.000 LF	.		.	
5240	678.0200 FIBER OPTIC SPLICE ENCLOSURE	4.000 EACH	.		.	
5250	678.0300 FIBER OPTIC SPLICE	264.000 EACH	.		.	
5260	678.0400 FIBER OPTIC TERMINATION	96.000 EACH	.		.	
5270	678.0500 COMMUNICATION SYSTEM TESTING	LUMP	LUMP		.	
5280	690.0150 SAWING ASPHALT	1,710.000 LF	.		.	
5290	690.0250 SAWING CONCRETE	12,075.000 LF	.		.	
5300	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT	139,417.500 DOL	1.00000		139417.50	
5310	715.0502 INCENTIVE STRENGTH CONCRETE STRUCTURES	140,814.000 DOL	1.00000		140814.00	

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1133-03-77
1133-09-71
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WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
5320	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	2,100.000 HRS	5.00000		10500.00	
5330	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT \$5. 00/HR	5,760.000 HRS	5.00000		28800.00	
5340	SPV.0035 SPECIAL **P** 700. HPC MASONRY STRUCTURES	18,065.000 CY	.		.	
5350	SPV.0035 SPECIAL 001. DRAINAGE BLANKET	36,800.000 CY	.		.	
5360	SPV.0035 SPECIAL 002. EXCAVATION OF PHRAGMITES SOIL	6,890.000 CY	.		.	
5370	SPV.0035 SPECIAL 010. ROADWAY EMBANKMENT	542,918.000 CY	.		.	
5380	SPV.0035 SPECIAL 150. FINE-GRAINED SOIL	2,700.000 CY	.		.	
5390	SPV.0035 SPECIAL 500. PLANTING MIXTURE	683.000 CY	.		.	
5400	SPV.0035 SPECIAL 501. TOPSOIL SPECIAL	1,050.000 CY	.		.	
5410	SPV.0060 SPECIAL **P** 003. CONCRETE BARRIER TRANSITION TYPE V56 TO S56 (36-INCH WIDE BASE)	38.000 EACH	.		.	

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1133-09-71
1133-09-74
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WISC 2013314
WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
5420	SPV.0060 SPECIAL 001. CPM BASELINE SCHEDULE	2.000 EACH	.		.	
5430	SPV.0060 SPECIAL 002. CPM SCHEDULE MONTHLY UPDATES	31.000 EACH	.		.	
5440	SPV.0060 SPECIAL 004. VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTE DELIVERED	10.000 EACH	.		.	
5450	SPV.0060 SPECIAL 005. SETTLEMENT GAUGE	10.000 EACH	.		.	
5460	SPV.0060 SPECIAL 100. DRAIN SLOTTED VANE TYPE A 3-FOOT	204.000 EACH	.		.	
5470	SPV.0060 SPECIAL 101. DRAIN SLOTTED VANE TYPE B 6-FOOT	59.000 EACH	.		.	
5480	SPV.0060 SPECIAL 102. TEMPORARY DRAINAGE INLET 2X2-FT	20.000 EACH	.		.	
5490	SPV.0060 SPECIAL 103. TEMPORARY DRAINAGE INLET 2X3-FT	4.000 EACH	.		.	
5500	SPV.0060 SPECIAL 104. TEMPORARY DRAINAGE INLET MEDIAN 1	8.000 EACH	.		.	

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1133-03-77
1133-09-71
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			DOLLARS	CTS	DOLLARS	CTS
5510	SPV.0060 SPECIAL 105. TEMPORARY DRAINAGE MANHOLE 5-FT DIAMETER	2.000 EACH	.		.	
5520	SPV.0060 SPECIAL 106. TEMPORARY INLET COVER	35.000 EACH	.		.	
5530	SPV.0060 SPECIAL 107. INLET MEDIAN 2 GRATE MODIFIED AT STRUCTURE 243B	1.000 EACH	.		.	
5540	SPV.0060 SPECIAL 108. INLET MEDIAN 2 GRATE MODIFIED AT STRUCTURE 244A	1.000 EACH	.		.	
5550	SPV.0060 SPECIAL 109. STORM SEWER PLUG	26.000 EACH	.		.	
5560	SPV.0060 SPECIAL 110. TEMPORARY STONE DITCH CHECKS	12.000 EACH	.		.	
5570	SPV.0060 SPECIAL 150. TRACKING PAD MAINTENANCE	25.000 EACH	.		.	
5580	SPV.0060 SPECIAL 151. TEMPORARY SLOPE DRAIN	38.000 EACH	.		.	
5590	SPV.0060 SPECIAL 152. SEDIMENTATION BASIN	18.000 EACH	.		.	

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WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
5600	SPV.0060 SPECIAL 200. MAINTENANCE AND REMOVAL OF CRASH CUSHIONS TEMP LEFT IN PLACE BY OTHERS	1.000 EACH	.		.	
5610	SPV.0060 SPECIAL 201. TEMPORARY THRIE BEAM CONNECTION	3.000 EACH	.		.	
5620	SPV.0060 SPECIAL 300. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC WORDS	9.000 EACH	.		.	
5630	SPV.0060 SPECIAL 301. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 2	24.000 EACH	.		.	
5640	SPV.0060 SPECIAL 302. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS, TYPE 3	4.000 EACH	.		.	
5650	SPV.0060 SPECIAL 351. CONCRETE BASE MEDIAN BARRIER TYPE 1	66.000 EACH	.		.	
5660	SPV.0060 SPECIAL 352. CONCRETE BASE MEDIAN BARRIER TYPE 2	14.000 EACH	.		.	
5670	SPV.0060 SPECIAL 353. CONCRETE CONTROL CABINET BASES TYPE 10 SPECIAL	1.000 EACH	.		.	
5680	SPV.0060 SPECIAL 358. LUMINAIRES UNDERDECK LED	20.000 EACH	.		.	

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1133-03-77
1133-09-71
1133-09-74
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
5690	SPV.0060 SPECIAL 359. ANCHOR BOLT COVER SHROUD	85.000 EACH	.		.	
5700	SPV.0060 SPECIAL 400. RAMP CLOSURE GATES SOLAR POWERED 37-FT	3.000 EACH	.		.	
5710	SPV.0060 SPECIAL 401. RAMP CLOSURE GATES SOLAR POWERED 40-FT	1.000 EACH	.		.	
5720	SPV.0060 SPECIAL 402. PEDESTAL BASES BLACK	2.000 EACH	.		.	
5730	SPV.0060 SPECIAL 403. TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE BLACK	4.000 EACH	.		.	
5740	SPV.0060 SPECIAL 404. TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT BLACK	2.000 EACH	.		.	
5750	SPV.0060 SPECIAL 405. COMMUNICATION MANHOLE	4.000 EACH	.		.	
5760	SPV.0060 SPECIAL 406. TRACER TEST STATION	13.000 EACH	.		.	
5770	SPV.0060 SPECIAL 407. INSTALL FIBER OPTIC CABLE MARKER	100.000 EACH	.		.	
5780	SPV.0060 SPECIAL 408. INSTALL TERMINATION PANEL	5.000 EACH	.		.	

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1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
5790	SPV.0060 SPECIAL 409. INSTALL IP RADIO	2.000 EACH	.		.	
5800	SPV.0060 SPECIAL 410. SALVAGE CAMERA ASSEMBLY	1.000 EACH	.		.	
5810	SPV.0060 SPECIAL 411. SALVAGE POLE MOUNTED CABINET	3.000 EACH	.		.	
5820	SPV.0060 SPECIAL 412. SALVAGE ETHERNET SWITCH	6.000 EACH	.		.	
5830	SPV.0060 SPECIAL 413. SALVAGE VIDEO ENCODER	1.000 EACH	.		.	
5840	SPV.0060 SPECIAL 414. SALVAGE IP RADIO	12.000 EACH	.		.	
5850	SPV.0060 SPECIAL 415. SALVAGE MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	2.000 EACH	.		.	
5860	SPV.0060 SPECIAL 416. SALVAGE SOLAR POWER SYSTEM	2.000 EACH	.		.	
5870	SPV.0060 SPECIAL 417. REMOVE WOOD POLE	3.000 EACH	.		.	
5880	SPV.0060 SPECIAL 418. EXPOSING EXISTING UTILITY	4.000 EACH	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
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WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
5890	SPV.0060 SPECIAL 500. PERENNIALS, BEE BALM (SNOW QUEEN), CG, 1 GAL.	48.000 EACH	.		.	
5900	SPV.0060 SPECIAL 501. PERENNIALS, DAYLILY (RED HOT RETURNS), CG, 1 GAL.	70.000 EACH	.		.	
5910	SPV.0060 SPECIAL 502. PERENNIALS, FEATHER REED GRASS (VARIGATED), CG, 1GAL.	22.000 EACH	.		.	
5920	SPV.0060 SPECIAL 503. PERENNIALS, LITTLE BLUESTEM (JAZZ), CG, 1 GAL.	58.000 EACH	.		.	
5930	SPV.0060 SPECIAL 504. PERENNIALS, RUSSIAN SAGE (LITTLE SPIRE), CG, 1 GAL.	16.000 EACH	.		.	
5940	SPV.0060 SPECIAL 505. PERENNIALS, SALVIA (MARCUS), CG, 1 GAL.	76.000 EACH	.		.	
5950	SPV.0060 SPECIAL 506. BULBS, TULIPS, PERENNIAL MIX, MULTICOLOR, BULB, 12+ CM	750.000 EACH	.		.	
5960	SPV.0060 SPECIAL 650. ADJUSTING WATER VALVE BOX	17.000 EACH	.		.	
5970	SPV.0060 SPECIAL 651. ADJUSTING VILLAGE OF ASHWAUBENON SANITARY MANHOLE COVERS	2.000 EACH	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

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			DOLLARS	CTS	DOLLARS	CTS
5980	SPV.0060 SPECIAL 652. ADJUSTING CITY OF GREEN BAY SANITARY MANHOLES	2.000 EACH	.		.	
5990	SPV.0060 SPECIAL 653. RECONSTRUCT SANITARY MANHOLE	1.000 EACH	.		.	
6000	SPV.0060 SPECIAL 700. ANCHOR BOLT ASSEMBLY LIGHT POLE	10.000 EACH	.		.	
6010	SPV.0060 SPECIAL 701. ANCHOR ASSEMBLIES NOISE BARRIERS STRUCTURES	340.000 EACH	.		.	
6020	SPV.0060 SPECIAL 900. FIRE DEPARTMENT CONNECTORS	9.000 EACH	.		.	
6030	SPV.0060 SPECIAL 901. STANDPIPE SYSTEM	9.000 EACH	.		.	
6040	SPV.0060 SPECIAL 903. FIRE HYDRANT SIGN MOUNTING	18.000 EACH	.		.	
6050	SPV.0060 SPECIAL 904. MAINTENANCE DOORS	4.000 EACH	.		.	
6060	SPV.0075 SPECIAL 150. STREET SWEEPING	750.000 HRS	.		.	
6070	SPV.0085 SPECIAL 500. TALL FESCUE SEED	100.000 LB	.		.	

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1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
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			DOLLARS	CTS	DOLLARS	CTS
6080	SPV.0085 SPECIAL 700. BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	42,282.000 LB	.		.	
6090	SPV.0090 SPECIAL **P** 001. CONCRETE BARRIER TYPE S56 (36-INCH WIDE BASE)	19,495.000 LF	.		.	
6100	SPV.0090 SPECIAL **P** 002. CONCRETE BARRIER TYPE S56A (36-INCH WIDE BASE)	7,005.000 LF	.		.	
6110	SPV.0090 SPECIAL **P** 009. CONCRETE CURB & GUTTER 24-INCH TYPE D	520.000 LF	.		.	
6120	SPV.0090 SPECIAL 003. CONC C&G AND BARRIER COLD WEATHER COVERING PLASTIC 1 LAYER	5,700.000 LF	.		.	
6130	SPV.0090 SPECIAL 004. CONC C&G AND BARRIER COLD WEATHER COVERING PLASTIC 2 LAYERS	5,700.000 LF	.		.	
6140	SPV.0090 SPECIAL 005. CONC C&G AND BARRIER COLD WEATHER COVERING PLASTIC/HAY/PLASTIC OR BLANKETS	5,700.000 LF	.		.	
6150	SPV.0090 SPECIAL 006. STRIP DRAINS	1,489,300 LF	.		.	
6160	SPV.0090 SPECIAL 007. PRE-BORED STRIP DRAINS	493,800.000 LF	.		.	

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20130723001PROJECT(S):
1133-03-77
1133-09-71
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			DOLLARS	CTS	DOLLARS	CTS
6170	SPV.0090 SPECIAL 008. SETTLEMENT SYSTEM	185.000 LF	.		.	
6180	SPV.0090 SPECIAL 100. JACKING REINFORCED CONCRETE PIPE CLASS V 36-INCH	1,823.000 LF	.		.	
6190	SPV.0090 SPECIAL 101. JACKING REINFORCED CONCRETE PIPE CLASS V 42-INCH	245.000 LF	.		.	
6200	SPV.0090 SPECIAL 102. DRAIN SLOTTED VANE LONGITUDINAL	131.000 LF	.		.	
6210	SPV.0090 SPECIAL 103. TEMPORARY DRAIN SLOTTED VANE LONGITUDINAL	325.000 LF	.		.	
6220	SPV.0090 SPECIAL 200. GLARE SCREENS TEMPORARY	3,320.000 LF	.		.	
6230	SPV.0090 SPECIAL 201. CONCRETE BARRIER TEMPORARY PRECAST ANCHORING	1,250.000 LF	.		.	
6240	SPV.0090 SPECIAL 305. TEMPORARY PAVEMENT MARKING EPOXY 4-INCH	341,540.000 LF	.		.	
6250	SPV.0090 SPECIAL 306. TEMPORARY PAVEMENT MARKING EPOXY 8-INCH	27,340.000 LF	.		.	

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1133-03-77
1133-09-71
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			DOLLARS	CTS	DOLLARS	CTS
6260	SPV.0090 SPECIAL 354. PULLBOX DRAIN DUCT	425.000 LF	.		.	
6270	SPV.0090 SPECIAL 400. CONDUIT HDPE 3-DUCT 2-INCH	13,230.000 LF	.		.	
6280	SPV.0090 SPECIAL 401. CONDUIT HDPE DIRECTIONAL BORE 3-DUCT 2-INCH	1,520.000 LF	.		.	
6290	SPV.0090 SPECIAL 402. CONDUIT HDPE 4-DUCT 2-INCH	4,030.000 LF	.		.	
6300	SPV.0090 SPECIAL 403. CONDUIT HDPE DIRECTIONAL BORE 4-DUCT 2-INCH	685.000 LF	.		.	
6310	SPV.0090 SPECIAL 404. CONDUIT HDPE 5-DUCT 2-INCH	385.000 LF	.		.	
6320	SPV.0090 SPECIAL 405. CONDUIT HDPE DIRECTIONAL BORE 5-DUCT 2-INCH	230.000 LF	.		.	
6330	SPV.0090 SPECIAL 500. FENCE DECORATIVE BRIDGE	750.000 LF	.		.	
6340	SPV.0090 SPECIAL 501. FENCE DECORATIVE WING	88.000 LF	.		.	
6350	SPV.0090 SPECIAL 502. FENCE DECORATIVE WALL	3,081.000 LF	.		.	

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1133-03-77
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WISC 2013314
WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
6360	SPV.0090 SPECIAL 503. SHOVEL CUT EDGING	136.000 LF	.		.	
6370	SPV.0090 SPECIAL 850. RAILING	512.000 LF	.		.	
6380	SPV.0105 SPECIAL 001. SURVEY PROJECT 1133-03-77	LUMP	LUMP		.	
6390	SPV.0105 SPECIAL 002. SURVEY PROJECT 1133-09-71	LUMP	LUMP		.	
6400	SPV.0105 SPECIAL 003. SURVEY PROJECT 1133-09-74	LUMP	LUMP		.	
6410	SPV.0105 SPECIAL 004. SURVEY PROJECT 1133-09-76	LUMP	LUMP		.	
6420	SPV.0105 SPECIAL 005. CONCRETE PAVEMENT JOINT LAYOUT	LUMP	LUMP		.	
6430	SPV.0105 SPECIAL 006. GEOTECHNICAL INSTRUMENTATION	LUMP	LUMP		.	
6440	SPV.0105 SPECIAL 375. ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 400)	LUMP	LUMP		.	

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1133-03-77
1133-09-71
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WISC 2013314
WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
6450	SPV.0105 SPECIAL 376. ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 600)	LUMP	LUMP			.
6460	SPV.0105 SPECIAL 377. ELECTRICAL SERVICE METER BREAKER PEDESTAL SPECIAL (CB 700)	LUMP	LUMP			.
6470	SPV.0105 SPECIAL 451. TRAFFIC SIGNAL CABINET & CONTROLLER CTH AAA & ALLIED STREET	LUMP	LUMP			.
6480	SPV.0105 SPECIAL 452. REMOVE TRAFFIC SIGNALS CTH AAA & ALLIED STREET	LUMP	LUMP			.
6490	SPV.0105 SPECIAL 453. REMOVE TRAFFIC SIGNALS USH 41 & CTH AAA	LUMP	LUMP			.
6500	SPV.0105 SPECIAL 800. ABANDONING EXISTING BOX CULVERT B-05-110	LUMP	LUMP			.
6510	SPV.0165 SPECIAL ***P** 700. LONGITUDINAL GROOVING BRIDGE DECK	248,144.000 SF		.		.
6520	SPV.0165 SPECIAL ***P** 850. PRESTRESSED PRECAST CONCRETE WALL PANEL	134,061.000 SF		.		.
6530	SPV.0165 SPECIAL 500. ARCHITECTURAL SURFACE TREATMENT	95,153.000 SF		.		.

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1133-03-77
1133-09-71
1133-09-74
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WISC 2013314
WISC 2013315
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			DOLLARS	CTS	DOLLARS	CTS
6540	SPV.0165 SPECIAL 501. STAINING CONCRETE	220,101.000				
	SF		.		.	
6550	SPV.0165 SPECIAL 502. STAINING CONCRETE BRICK	646,844.000				
	SF		.		.	
6560	SPV.0165 SPECIAL 503. ARCHITECTURAL SURFACE TREATMENT SPECIAL	21,193.000				
	SF		.		.	
6570	SPV.0165 SPECIAL 900. COMBINATION BARRIER N-05-0012 **P**	1,700.000				
	SF		.		.	
6580	SPV.0165 SPECIAL 901. COMBINATION BARRIER N-05-0013 **P**	18,000.000				
	SF		.		.	
6590	SPV.0165 SPECIAL 950. SIGN BLANKS	463.000				
	SF		.		.	
6600	SPV.0180 SPECIAL **P** 005. HPC PAVEMENT 8-INCH	1,225.000				
	SY		.		.	
6610	SPV.0180 SPECIAL **P** 006. HPC PAVEMENT 9-INCH	61,350.000				
	SY		.		.	
6620	SPV.0180 SPECIAL **P** 007. HPC PAVEMENT 10 1/2-INCH	394,275.000				
	SY		.		.	
6630	SPV.0180 SPECIAL 001. CONCRETE PAVEMENT COLD WEATHER COVERING PLASTIC 1 LAYER	43,650.000				
	SY		.		.	

SCHEDULE OF ITEMS

REVISED:

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
6640	SPV.0180 SPECIAL 002. CONCRETE PAVEMENT COLD WEATHER COVERING PLASTIC 2 LAYER	43,650.000 SY	.		.	
6650	SPV.0180 SPECIAL 003. CONCRETE PAVEMENT COLD WEATHER COVERING PLASTIC/HAY/PLASTIC OR BLANKETS	43,650.000 SY	.		.	
6660	SPV.0180 SPECIAL 004. GEOGRID REINFORCEMENT	19,600.000 SY	.		.	
6670	SPV.0180 SPECIAL 008. HPC PAVEMENT HES 9-INCH	490.000 SY	.		.	
6680	SPV.0180 SPECIAL 009. HPC PAVEMENT HES 10 1/2-INCH	6,935.000 SY	.		.	
6690	SPV.0180 SPECIAL 010. COLORED CONCRETE PAVEMENT 9-INCH	450.000 SY	.		.	
6700	SPV.0180 SPECIAL 011. COLORED AND STAMPED CONCRETE 5-INCH	6,330.000 SY	.		.	
6710	SPV.0180 SPECIAL 012. CONCRETE JOINT SEALER	27,550.000 SY	.		.	
6720	SPV.0180 SPECIAL 013. HPC PAVEMENT APPROACH SLAB	9,100.000 SY	.		.	

SCHEDULE OF ITEMS

CONTRACT:
20130723001PROJECT(S):
1133-03-77
1133-09-71
1133-09-74
1133-09-76FEDERAL ID(S):
WISC 2013313
WISC 2013314
WISC 2013315
WISC 2013316

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
6730	SPV.0180 SPECIAL 151. GEOSYNTHETIC CLAY LINER	7,100.000 SY	.		.	
6740	SPV.0180 SPECIAL 500. SHREDDED HARDWOOD BARK MULCH	1,025.000 SY	.		.	
6750	SPV.0180 SPECIAL 501. QUARRIED LESTONE SLABS	1,300.000 SY	.		.	
	SECTION 0001 TOTAL				.	
	TOTAL BID				.	

PLEASE ATTACH SCHEDULE OF ITEMS HERE